United Nations A/CN.4/705

General Assembly

Distr.: General
31 January 2017

Original: English

International Law Commission
Sixty-ninth session
Geneva, 1 May-2 June and 3 July-4 August 2017

Fourth report on the protection of the atmosphere

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* The Special Rapporteur wishes to acknowledge the valuable assistance given to him by the following professors and researchers: Charles Wharton, formerly Assistant Professor, Renmin University of China Law School; Yuka Fukunaga, Waseda University; Yubing Shi, Xiamen University; Masayuki Hiromi, Post-doctoral Fellow, Faculty of Law, Sophia University; Deng Hua, doctoral candidate, Renmin University of China Law School; Zhang Maoli, graduate student, China Youth University of Political Studies; and Zhou You, Juris Master, Peking University. Other graduate students at China Youth University of Political Studies, including Qi Quanmei, Li Yubo, Zhang Yixi, Wang Jing, Wang Kun, Liu Yue and Chen Yue, as well as Wang Leifan, doctoral candidate, Renmin University of China Law School, were also very helpful. The Special Rapporteur is deeply grateful to Lin Wei, Vice-President; Wu Yong, Dean; Wang Lijun, Vice-Dean; and Qin Yihe and Chen Xiaohua, Professors, who helped make his research at China Youth University of Political Studies so fruitful, and also to Zhu Wenqi, Professor, Renmin University of China Law School, for his constant support and encouragement during this project.

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Introduction

1. At its sixty-eighth session in 2016, the International Law Commission had before it the third report[1] submitted by the Special Rapporteur on the topic of the protection of the atmosphere. The third report was considered by the Commission at its 3306th, 3307th, 3308th and 3311th meetings, on 27 and 31 May, and 1 and 7 June 2016.[2] The Commission decided to send all the draft guidelines and a preambular paragraph proposed by the Special Rapporteur to the Drafting Committee. The Commission provisionally adopted the draft guidelines and preambular paragraph, with the commentaries thereto, at its sixty-eighth session.[3]

Debate held in the Sixth Committee of the General Assembly at its seventy-first session

2. In October 2016, the Sixth Committee considered the Commission's work on the topic.[4] While the majority of delegations that expressed an opinion generally welcomed the work of the Commission,[5] a few delegations did express limited reservations,[6] with one delegation remaining sceptical.[7] Most delegations agreed that the participation of scientific experts was very useful.[8]

3. Some delegations supported the addition of the fourth preambular paragraph concerning the special situation and needs of developing countries.[9] However, a few delegations showed concern that the wording of that paragraph was rather weak and

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[1] A/CN.4/692.

[2] There was also a dialogue with scientists on the protection of the atmosphere, which was chaired by the Special Rapporteur. The dialogue was followed by a question and answer session. The summary of the informal dialogue is available on the website of the Commission. See also, S. Murase, "Scientific knowledge and the progressive development of international law; with reference to the ILC topic on the protection of the atmosphere", in *The International Legal Order: Current Needs and Possible Responses: Essays in Honour of Djamchid Momtaz*, J. Crawford and others, eds. (Leiden, Martinus Nijhoff, forthcoming).

[3] *Official Records of the General Assembly, Seventy-first Session, Supplement No. 10* (A/71/10), paras. 95-96.

[4] The Special Rapporteur expresses his gratitude to Qi Quanmei, Law School, China Youth University of Political Studies, for her assistance in summarizing the debate in the Sixth Committee.

[5] Italy, *Official Records of the General Assembly, Seventy-first Session, Sixth Committee*, 20th meeting (A/C.6/71/SR.20), para. 90; Belarus, ibid., 23rd meeting (A/C.6/71/SR.23), para. 7; Algeria, ibid., 23rd meeting, para. 31; Egypt, ibid., para. 45; Iceland (on behalf of the Nordic countries), ibid., 24th meeting (A/C.6/71/SR.24), para. 62; United Kingdom of Great Britain and Northern Ireland, ibid., para. 74; Republic of Korea, ibid., para. 84; Greece, ibid., 25th meeting (A/C.6/71/SR.25), para. 33; El Salvador, ibid., para. 57; Sudan, ibid., para. 72; Portugal, ibid., para. 94; Mexico, ibid., 26th meeting (A/C.6/71/SR.26), para. 20; Singapore, ibid., para. 28; Malaysia, ibid., para. 67; South Africa, ibid., para. 79; Viet Nam, ibid., para. 100; Slovenia, ibid., para. 110; Tuvalu, ibid., para. 129; Tonga, ibid., para. 132; Sri Lanka, ibid., 27th meeting (A/C.6/71/SR.27), para. 2; Micronesia (Federated States of), ibid., para. 23; Japan, ibid., para. 30; Indonesia, ibid., para. 36; India, ibid., para. 41; Argentina, ibid., 29th meeting (A/C.6/71/SR.29), para. 86; Iran (Islamic Republic of), ibid., para. 91; and Peru, ibid., 30th meeting (A/C.6/71/SR.30), para. 6.

[6] France, ibid., 20th meeting (A/C.6/71/SR.20), para. 77; Czechia, ibid., 24th meeting (A/C.6/71/SR.24), para. 70; China, ibid., para. 91; Austria, ibid., 25th meeting (A/C.6/71/SR.25), para. 84; Spain, ibid., 26th meeting (A/C.6/71/SR.26), para. 9; and Slovakia, ibid., para. 143.

[7] United States of America, ibid., para. 127.

[8] Italy, ibid., 20th meeting (A/C.6/71/SR.20), para. 90; Egypt, ibid., 23rd meeting (A/C.6/71/SR.23), para. 45; Portugal, ibid., 25th meeting (A/C.6/71/SR.25), para. 94; Mexico, ibid., 26th meeting (A/C.6/71/SR.26), para. 20; and Viet Nam, ibid., para. 102.

[9] Algeria, ibid., 23rd meeting (A/C.6/71/SR.23), para. 31; Republic of Korea, ibid., 24th meeting (A/C.6/71/SR.24), para. 84; South Africa, ibid., 26th meeting (A/C.6/71/SR.26), para. 81; and Tuvalu, ibid., para. 129.

did not take full account of the special circumstances and real needs of developing countries.[10]

4. With regard to draft guideline 3, delegations generally supported the obligation of States to exercise due diligence when protecting the atmosphere.[11] Some delegations conveyed doubts, noting that those obligations might be difficult to apply.[12] One delegation proposed that the last sentence of paragraph (7) of the commentary to draft guideline 3 should be replaced with the following: "In this context, it should be noted that not only is the Paris Agreement acknowledging in the Preamble that climate change is a common concern of humankind, but also that ambient air quality is a common concern of humankind, according to [World Health Organization] Ambient Air Quality Standards and Guidelines. This clearly shows the importance of ensuring the integrity of all ecosystems, including oceans and the protection of biodiversity."[13]

Regarding "environmental impact assessment" in draft guideline 4, delegations generally supported the notion that to undertake it would help to control private and public activities.[14] Some delegations suggested that the threshold of a significant adverse impact should be strictly defined,[15] and that the cumulative effect of harmful activities should be stressed.[16]

5. Regarding draft guidelines 5 and 6 on the sustainable, equitable and reasonable manner in which the atmosphere should be utilized, some delegations endorsed such a view.[17] One delegation was concerned that the expression "utilization of the atmosphere" was not clear enough.[18] Another suggested that draft guidelines 5 and 6 would be better placed at the beginning of the text or in the preamble.[19] One delegation proposed that for reasons of clarity, paragraph (3) of the commentary to draft guideline 5 should better define the term "utilization" or, alternatively, include examples of such utilization.[20] It was also suggested that the Commission should examine factors to be assessed in balancing the interests of current and future generations.[21]

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[10] China, ibid., 24th meeting (A/C.6/71/SR.24), para. 91. Spain believed that the reference in the new preambular paragraph to the needs of developing countries was not consistent with the more balanced focus that currently prevailed in that regard (ibid., A/C.6/71/SR.26, para. 9). See also the comments made by Brazil (ibid., para. 90).

[11] Italy, ibid., 20th meeting (A/C.6/71/SR.20), para. 91; Greece, ibid., 25th meeting (A/C.6/71/SR.25), para. 35; Singapore, ibid., 26th meeting (A/C.6/71/SR.26), para. 30; Viet Nam, ibid., 26th meeting, para. 101; Tonga, ibid., para. 134; and Micronesia (Federated States of), ibid., 27th meeting (A/C.6/71/SR.27), para. 24.

[12] Czechia, ibid., 24th meeting (A/C.6/71/SR.24), para. 71; Romania, ibid., 25th meeting (A/C.6/71/SR.25), para. 77; and Malaysia, which stressed that its scope might be questionable when put into practice (ibid., 26th meeting, A/C.6/71/SR.26, para. 69).

[13] Poland, ibid., para. 55.

[14] Italy, ibid., 20th meeting (A/C.6/71/SR.20), para. 91; United Kingdom, ibid., 24th meeting (A/C.6/71/SR.24), para. 76; Greece, ibid., 25th meeting (A/C.6/71/SR.25), para. 36; Singapore, ibid., 26th meeting (A/C.6/71/SR.26), para. 32; and Malaysia, ibid., para. 70; Tonga, ibid., para. 135.

[15] Czechia, ibid., 24th meeting (A/C.6/71/SR.24), para. 71; Austria, ibid., 25th meeting (A/C.6/71/SR.25), para. 84; and Slovenia, ibid., 26th meeting (A/C.6/71/SR.26), para. 111.

[16] Czechia, ibid., 24th meeting (A/C.6/71/SR.24), para. 71; Romania, ibid., 25th meeting (A/C.6/71/SR.25), para. 77; and Tonga, ibid., 26th meeting (A/C.6/71/SR.26), para. 135.

[17] Republic of Korea, ibid., 24th meeting (A/C.6/71/SR.24), para. 85; and Greece, ibid., 25th meeting (A/C.6/71/SR.25), para. 37.

[18] France, ibid., 20th meeting (A/C.6/71/SR.20), para. 77.

[19] Belarus, ibid., 23rd meeting (A/C.6/71/SR.23), para. 7.

[20] Greece, ibid., 25th meeting (A/C.6/71/SR.25), para. 37.

[21] Malaysia, ibid., 26th meeting (A/C.6/71/SR.26), para. 73.

6. With regard to draft guideline 7, delegations generally welcomed its inclusion in the draft guidelines and its emphasis on caution and prudence before undertaking any activities aimed at the intentional large-scale modification of the atmosphere.[22] One delegation suggested that draft guideline 7 should be deleted, because it was not based on any relevant existing rules or practices.[23] Another delegation believed that this guideline should not be applied to situations of armed conflict.[24] One delegation proposed that the draft guideline should use more forceful language, since such activities could have a significant impact on the quality of the atmosphere.[25] Some delegations suggested that the scope of the draft guideline should be limited.[26] With regard to draft guideline 8 concerning international cooperation, one delegation proposed that cooperation should operate in accordance with the common but differentiated responsibilities of States and their respective capabilities and social and economic conditions.[27] Another delegation suggested that the draft guideline should not refer only to international organizations, as other entities were also actively tackling the issue of atmospheric degradation and pollution.[28]

Purpose of the present report

7. Building on the previous three reports, the Special Rapporteur wishes to consider in the present report, the interrelationship between international law on the protection of the atmosphere and other fields of international law, namely, international trade and investment law (section II), the law of the sea (section III) and international human rights law (section IV). It is considered that these fields of international law have intrinsic links with the law relating to the protection of the atmosphere itself. Therefore, to analyse their interrelationship is not in any way intended to expand the scope of the topic under draft guideline 2, as provisionally adopted by the Commission.

I. Guiding principles of interrelationship**

A. Fragmentation and interrelationship

8. International law related to the protection of the atmosphere (sometimes referred to as "the law of the atmosphere" in the present report) can be considered as an autonomous regime, but is in no way a "self-contained" or "sealed" regime. It exists and functions in relation to other fields of international law. Indeed, the core

** The Special Rapporteur is particularly grateful to Deng Hua, doctoral candidate, Renmin University, for supplying the relevant material on fragmentation of international law and for drafting the relevant parts of the report on mutual supportiveness and international trade law. He would also like to express his gratitude to Zhang Maoli, Law School, China Youth University of Political Studies, for carefully checking the relevant sources for the present report.

[22] Italy, ibid., 20th meeting (A/C.6/71/SR.20), para. 91; Iceland (on behalf of the Nordic countries), ibid., 24th meeting (A/C.6/71/SR.24), para. 62; and Republic of Korea, ibid., para. 85.

[23] France, ibid., 20th meeting (A/C.6/71/SR.20), para. 77; Mexico also suggested that "the Commission should carefully consider whether to include draft article 7 ... given that the subject was controversial, practice was scarce and the debate was evolving" (ibid., 26th meeting (A/C.6/71/SR.26), para. 23).

[24] Belarus, ibid., 23rd meeting (A/C.6/71/SR.23), para. 7; Spain also stated that draft guideline 7 should expressly state that military activities were excluded from its scope (ibid., 26th meeting (A/C.6/71/SR.26), para. 9).

[25] Romania, ibid., 25th meeting (A/C.6/71/SR.25), para. 78.

[26] Austria, ibid., para. 85; and Slovakia, ibid., 26th meeting (A/C.6/71/SR.26), para. 143.

[27] Algeria, ibid., 23rd meeting (A/C.6/71/SR.23), para. 31.

[28] El Salvador, ibid., 25th meeting (A/C.6/71/SR.25), para. 58.

strength of international law as a legal system lies in such an interrelationship. Fragmentation of international law is therefore widely acknowledged as a necessary challenge that must be overcome in all phases of the international legal process, that is, formulation, interpretation/application and implementation.

9. It may be recalled that the Special Rapporteur stated the basic approach to the topic in his first report in 2014, in it he stated that it was important for the Commission to consider the legal principles and rules on the subject relating to the so-called "special regimes" within the framework of general international law. That implies that the Commission should resist the tendency towards "compartmentalization (or fragmentation)" caused by dominant single-issue approaches to international environmental law.[29] International law relating to the protection of the atmosphere is part of general international law and, thus, the legal principles and rules applicable to the atmosphere should, as far as possible, be considered in relation to the doctrine and jurisprudence of general international law. It also implies that the work of the Commission should extend to applying the principles and rules of general international law to various aspects of the problem of atmospheric protection. It is necessary to place each isolated compartment within the framework of general international law in order to establish coherent links among them. The generalist or integrative approach, which cuts across the boundaries of special regimes, is thus indispensable in today's efforts by the Commission to codify and progressively develop international law. Given that the Commission is a body composed primarily of experts of general international law, one can see here new possibilities and new opportunities for the Commission in the twenty-first century. The enormous growth in the number of treaties in these specialized fields has led to "treaty congestion" or "treaty inflation".[30] The multitude of conventions notwithstanding, they are faced with significant gaps as well as overlaps because there has been little or no coordination or harmonization and, therefore, no sufficient coherence among them. The need to enhance synergies among the existing conventions has been emphasized repeatedly and the Commission should seize upon this opportunity, as it can play an important role in that regard.[31]

10. The Conclusions of the work of the Study Group on the fragmentation of international law: difficulties arising from the diversification and expansion of international law should also be noted, in their addressing the question of interrelationship of legal norms. Conclusion (1) states: "International law is a legal system. Its rules and principles (i.e. its norms) act in relation to and should be interpreted against the background of other rules and principles. As a legal system, international law is not a random collection of such norms. There are meaningful relationships between them. Norms may thus exist at higher and lower hierarchical

[29] A/CN.4/667, para. 17. See also S. Murase, "Perspectives from international economic law on transnational environmental issues", *Collected Courses of The Hague Academy of International Law*, vol. 253 (Leiden, Martinus Nijhoff, 1996), pp. 283-431, reproduced in S. Murase, *International Law: An Integrative Perspective on Transboundary Issues* (Tokyo, Sophia University Press, 2011), pp. 1-127; and S. Murase, "Conflict of international regimes: trade and the environment", ibid., pp. 130-166.

[30] See E. Brown Weiss, "International environmental law: contemporary issues and the emergence of a new world order", *Georgetown Law Journal*, vol. 81 (1993), pp. 675-710, at pp. 697-702; S. Murase and others, "Compliance with international standards: environmental case studies", in *Proceedings of the 89th Annual Meeting of the American Society of International Law: Structures of World Order* (Washington, D.C., American Society of International Law, 1995), pp. 206-224; D.K. Anton, "Treaty congestion in contemporary international environmental law", in *Routledge Handbook of International Environmental Law*, S. Alam and others, eds. (New York, Routledge, 2013), pp. 651-665.

[31] A/CN.4/667, paras. 17-18.

levels, their formulation may involve greater or lesser generality and specificity and their validity may date back to earlier or later moments in time."[32]

On this basis, conclusion (2) pronounces: "In applying international law, it is often necessary to determine the precise relationship between two or more rules and principles that are both valid and applicable in respect of a situation."[33] The same conclusion continues: "For that purpose the relevant relationships fall into two general types: *[r]elationships of interpretation* [and] *[r]elationships of conflict*." The former is "the case where one norm assists in the interpretation of another". In such a case: "A norm may assist in the interpretation of another norm for example as an application, clarification, updating, or modification of the latter. In such a situation, both norms are applied in conjunction." The latter "is the case where two norms that are both valid and applicable point to incompatible decisions so that a choice must be made between them". This conclusion recalls that: "The basic rules concerning the resolution of normative conflicts are to be found in the 1969 Vienna Convention."[34] Furthermore, conclusion (4) stresses the principle of harmonization, affirming that: "It is a generally accepted principle that when several norms bear on a single issue they should, to the extent possible, be interpreted so as to give rise to a single set of compatible obligations."[35]

11. It is in the spirit of these methodological propositions that the present report discusses the question of interrelationship. Thus, any overlaps or conflicts arising from a plurality of conventions that may be applicable to the same issue (or subject-matter) may require coordination in the relevant context. For the present topic, such situations may arise in the form of a conflict between two multilateral conventions. As referred to later in this section, article 30 of the Vienna Convention on the Law of Treaties (hereinafter, "Vienna Convention"), which provides for the situation of conflict between successive treaties, does not always give the necessary answers on how coordination should be conducted. In general, it is appropriate to follow the above conclusions on the relationships of interpretation (when norms supplement one another) and the relationships of conflict (when one prevails over another), as well as the principle of harmonization (for a single set of obligations to the extent possible), though admittedly this process presents some difficulties.[36]

12. The concept of interrelationship reflects the interdependence of environmental protection and social and economic development, and is expected to strike a proper balance in sustainable development. Therefore, the principles guiding interrelationship in the present report refer to the interlinkages between international law relating to the protection of the atmosphere and other branches of international law, such as trade and investment law, the law of the sea and human rights law. Those selected areas are highlighted because of their intrinsic linkages with the law relating to the protection of the atmosphere. Nonetheless, potential conflicts should

[32] *Yearbook ... 2006*, vol. II (Part Two), pp. 177-178.
[33] Ibid., p. 178.
[34] Ibid., conclusion (3) refers to the Vienna Convention on the Law of Treaties and states: "When seeking to determine the relationship of two or more norms to each other, the norms should be interpreted in accordance with, or analogously to, the Vienna Convention, and especially the provisions in its articles 31-33 having to do with the interpretation of treaties."
[35] Ibid.
[36] See, in general, A. Boyle, "Relationship between international environmental law and other branches of international law", in *The Oxford Handbook of International Environmental Law*, D. Bodansky, J. Brunée and E. Hey, eds. (Oxford, Oxford University Press, 2007), pp. 125-146.

not be ignored,[37] such as the conflicts between "principles that may often point in different directions ... new types of treaty clauses or practices that may not be compatible with old general law or the law of some other specialized branch".[38] There is a strong tendency nowadays in international law towards "compartmentalization" — evidenced by a lack of coherent links among isolated compartments of such law — which often leads to its fragmentation.[39] Thus, conflicts among the relevant treaties should be avoided or resolved through active coordination as much as possible, since not to do so would impede effective implementation of the legitimate objectives of the international community.[40]

13. When the rules of international law are formulated, interpreted and applied, and implemented in a supplementary manner, the possibilities for avoiding or resolving conflicts among them will increase. Hence, in order to effectively protect the atmosphere from atmospheric pollution and degradation, it is crucial that consideration of the relevant rules of international law be undertaken in a mutually supportive manner, which can turn potential conflicts in coordinating treaty provisions into coherent schemes for the protection of the atmosphere.

B. Mutual supportiveness

14. The concept of "mutual supportiveness" first appeared in Agenda 21, which stressed that "[t]he international economy should provide a supportive international climate for achieving environment and development goals by ... [m]aking trade and environment mutually supportive",[41] calling on States to strive to "promote and support policies, domestic and international, that make economic growth and environmental protection mutually supportive".[42] Today, the call for mutual supportiveness has become a recurrent expression in international instruments and judicial decisions, as referred to later in the present report. Generally speaking, the concept of mutual supportiveness pursues a balance between the different branches of international law in light of the concept of sustainable development. The emergence of mutual supportiveness is born of a desire to treat different branches of international law, not as potentially competing regimes but with a view to considering coordinated efforts in achieving synergies. From such a perspective, and when considering Agenda 21 and widely acknowledged core tenets of international law, mutual supportiveness can be regarded as an indispensable principle of present-

[37] Concerning the phenomenon of conflict among the rules of international law, see, e.g., J. Pauwelyn, *Conflict of Norms in Public International Law: How WTO Law Relates to other Rules of International Law* (Cambridge, United Kingdom, Cambridge University Press, 2003); R. Michaels and J. Pauwelyn, "Conflict of norms or conflict of laws: different techniques in the fragmentation of public international law", *Duke Journal of Comparative and International Law*, vol. 22 (2012), pp. 349-376; D.N. Dagbanja, "The conflict of legal norms and interests in international investment law: towards the constitutional-general international law imperatives theory", *Transnational Legal Theory*, vol. 6, No. 3-4 (2015), pp. 518-560.

[38] Study Group of the International Law Commission, "Fragmentation of international law: difficulties arising from the diversification and expansion of international law", document A/CN.4/L.682, para. 15.

[39] Murase, *International Law: An Integrative Perspective on Transboundary Issues* (see footnote 29 above), p. 10.

[40] See International Law Association resolution 2/2014 on the declaration of legal principles relating to climate change, *Report of the Seventy-sixth Conference held in Washington D.C., August 2014* (London, 2014).

[41] Agenda 21, *Report of the United Nations Conference on Environment and Development, Rio de Janeiro, 3-14 June 1992*, vol. I, *Resolutions Adopted by the Conference* (United Nations publication, Sales No. E.93.I.8 and corrigendum), resolution 1, annex II, para. 2.3 (*b*).

[42] Ibid., para. 2.9 (*d*). Also see paras. 2.19-2.22.

day international law when coping with issues of interpretation, fragmentation and competition among regimes.[43]

15. Mutual supportiveness has developed at least two normative dimensions: first, one that requires States to negotiate in good faith with a view to preventing *ex ante* possible conflicts; and, second, to interpret, apply and implement relevant rules in a harmonious manner in order to resolve *ex post* actual conflicts to the extent possible.[44] The concept of sustainable development, which itself is a cornerstone of international law, links long-term economic growth and livelihoods to the prevention of irreparable harm to the human environment necessary for life. This parallels the core idea of mutual supportiveness, which connects economic development and environmental protection. While the two concepts are not identical, there exists a close alliance of mutual supportiveness and sustainable development, and a certain degree of overlap. At the interpretative level, the operation of sustainable development in some cases can hardly be distinguished from what can be achieved by relying upon mutual supportiveness.[45]

16. First of all, potential conflicts may be prevented and avoided at the negotiating stage of new rules.[46] States should aim for mutual supportiveness when they are still at the stage of negotiating a given agreement, which helps to prevent possible conflicts in advance. For example, conflicts may be prevented by one rule explicitly stating that it derogates from another rule, or one rule that makes an explicit reference to another rule. In those circumstances, the two rules may simply accumulate and the conflict is prevented from arising *ex ante*.[47]

17. Also in the *ex post* process of interpretation and application of relevant rules of international law, mutual supportiveness should be the guiding principle for States and international courts and tribunals, under which the relevant rules are interpreted and applied in a harmonious way "to the extent possible ... so as to give rise to a single set of compatible obligations".[48]

18. While the Vienna Convention itself does not refer directly to the interpretative principle of harmonization, it is generally guaranteed by article 31, paragraph 3 (*c*), which provides for a systemic interpretation, requiring the interpreters to take into account "[a]ny relevant rules of international law applicable in the relations between the parties".[49] In other words, article 31, paragraph 3 (*c*), emphasizes both the "unity of international law" and "the sense in which rules should not be considered in

[43] Ibid., pp. 12-20. Also see R. Pavoni, "Mutual supportiveness as a principle of interpretation and law-making: a watershed for the 'WTO-and-competing regimes' debate?" *European Journal of International Law*, vol. 21, No. 3 (2010), p. 651.

[44] Ibid.

[45] Ibid., p. 662.

[46] See Pauwelyn, *Conflict of Norms* ... (footnote 37 above), p. 237.

[47] Ibid. Wilfred Jenks once pointed out that, when different treaties are negotiated or coordinated by different persons, the negotiators or coordinators are likely to "secure fuller satisfaction for their own views on debatable questions of detail at the price of conflict between different instruments and incoherence in the body of related instruments" and, therefore, he called for the negotiators or coordinators to "form the habit of regarding proposed new instruments from the standpoint of their effect on the international statute book as a whole", W. Jenks, "Conflict of law-making treaties", *The British Year Book of International Law*, vol. 30 (1953), p. 452.

[48] On the interpretative principle of harmonization, see *Yearbook ... 2006*, vol. II (Part Two), p. 178, para. (4).

[49] See e.g., WTO, Appellate Body report, *United States — Import Prohibition of Certain Shrimp and Shrimp Products*, WT/DS58/AB/R, 12 October 1998, para. 158, and footnote 157. See also *Al-Adsani v. the United Kingdom*, application No. 35763/97, ECHR 2001-XI, para. 55.

isolation of general international law".[50] Thus, for instance, since the *United States — Standards for Reformulated and Conventional Gasoline* case in 1996, the Appellate Body of the World Trade Organization (WTO) has refused to separate the rules of the General Agreement on Tariffs and Trade (GATT)[51] from other rules of interpretation in public international law, by stating that "the *General Agreement* is not to be read in clinical isolation from public international law".[52] It may be recalled that the Commission's Study Group on fragmentation of international law noted that article 31, paragraph (3) (*c*), of the Vienna Convention is based on the "principle of systemic integration", emphasizing the need to take into account other rules that might have a bearing on a case in interpreting the text of an international treaty.[53]

19. It should also be noted that article 30 of the Vienna Convention provides for traditional methods to resolve a conflict if the above principle of harmonization does not work effectively in a given circumstance. The article[54] provides for explicit conflict rules of *lex specialis* (paragraph 2), *lex posterior* (paragraph 3) and *pacta tertiis* (paragraph 4). Paragraph 2 confirms the *lex specialis* rule that: "When a treaty specifies that it is subject to, or that it is not to be considered as incompatible with, an earlier or later treaty, the provisions of that other treaty prevail."[55] Paragraph 3 provides for the situation of successive treaties among the same parties, confirming the *lex posterior* rule that a later treaty prevails over an earlier treaty.[56] Paragraph 4 refers to the complex issues of non-identity of parties to successive treaties; that is, when the parties to the latter treaty do not include all the parties to the earlier one, which is often the case that occurs in dealing with the question of interrelationship among different multilateral treaties.[57]

20. However, these traditional methods of treaty interpretation themselves may not necessarily lead to the desired mutual supportiveness. For instance, a self-standing conflict clause (rule) in the operative text of a multilateral environmental agreement could sometimes grant priority to other agreements in case of conflict, such as article XIV, paragraphs 2 and 3, of the Convention on international trade in endangered species of wild fauna and flora.[58] In other instances, the conflict rule incorporated in a multilateral environmental agreement is far from being clear, as in the case of the Cartagena Protocol on Biosafety to the Convention on Biological

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[50] P. Sands, "Treaty, custom and the cross-fertilization of international law", *Yale Human Rights and Development Law Journal*, vol. 1 (1998), para. 25; C. McLachlan, "The principle of systemic integration and article 31(3)(c) of the Vienna Convention", *International and Comparative Law Quarterly*, vol. 54 (2005), p. 279; and O. Corten and P. Klein, eds., *The Vienna Conventions on the Law of Treaties: A Commentary*, vol. 1 (Oxford, Oxford University Press, 2011), pp. 828-829.

[51] The original Agreement was signed in Geneva on 30 October 1947. GATT 1994 appears in annex 1 to the Marrakesh Agreement establishing the World Trade Organization.

[52] WTO, Appellate Body report, *United States — Standards for Reformulated and Conventional Gasoline*, WT/DS2/AB/R, 29 April 1996, p. 17. See also S. Murase, "Unilateral measures and the WTO dispute settlement" (discussing the *Gasoline* case), in *Asian Dragons and Green Trade: Environment, Economics and International Law*, S.C. Tay and D.C. Esty, eds. (Singapore, Times Academic Press, 1996), pp. 137-144.

[53] Study Group of the International Law Commission, "Fragmentation of international law ..." (see footnote 38 above), paras. 410-480.

[54] Corten and Klein, *The Vienna Conventions* ... (see footnote 50 above), pp. 764-803.

[55] Ibid., pp. 785-787.

[56] Ibid., pp. 789-791.

[57] Ibid., pp. 791-798.

[58] See also Pavoni, "Mutual supportiveness ..." (footnote 43 above), p. 654.

Diversity.[59] Therefore, when States give priority to one instrument, they should also consider proper balance for the benefit of the other conflicting instrument, and avoid absoluteness so that other legitimate objectives could also be realized in an appropriate way.

21. Pursuant to the above, the following draft guideline is proposed:

Draft guideline 9: Guiding principles on interrelationship

In line with the principle of interrelationship, States should develop, interpret and apply the rules of international law relating to the protection of the atmosphere in a mutually supportive and harmonious manner with other relevant rules of international law, with a view to resolving conflict between these rules and to effectively protecting the atmosphere from atmospheric pollution and atmospheric degradation.

II. Interrelationship with international trade and investment law

22. Free trade and foreign investment are prerequisites for the welfare of humankind in the contemporary world; however, they may come into conflict with the protection of the environment and the atmosphere. As a general example, a State may take domestic environmental measures to maintain air quality by restricting foreign imports of gasoline or foreign investments in a power plant, which may in turn be considered as conflicting with the State's international obligations to respect free trade or to protect foreign investment. How to reconcile such conflicts has been an issue of serious debate in international law. In considering questions of trade versus environment, it is important to distinguish between two situations: one is the case in which the measures in question have been taken by a State in accordance with the applicable multilateral environmental agreements, and another the case in which the measures have been taken merely on the basis of the State's domestic law. In the former case, coordination between two treaties should be settled in accordance with articles 30 and 31 of the Vienna Convention as mentioned above, while in the latter case these are basically the State's unilateral measures that can be deemed either as "opposable" or "non-opposable" in international law.[60]

[59] The Preamble to the Cartagena Protocol provides, with regard to its interrelationship with the WTO agreements, as follows: "Recognizing that trade and environment agreements should be mutually supportive with a view to achieving sustainable development, [e]mphasizing that this Protocol shall not be interpreted as implying a change in the rights and obligations of a Party under any existing international agreements, [u]nderstanding that the above recital is not intended to subordinate this Protocol to other international agreements", which indicates that, while the first paragraph places the Protocol and the WTO agreements on an equal footing, the second paragraph appears to give priority to the WTO agreements and the third paragraph to the Protocol. See R. Mckenzie and others, *An Explanatory Guide to the Cartagena Protocol on Biosafety*, International Union for Conservation of Nature, Environmental Law Centre, IUCN Environmental Policy and Law Paper No. 46 (Gland and Cambridge, International Union for Conservation of Nature, 2003), paras. 143-156.

[60] See S. Murase, "Unilateral measures and the concept of opposability in international law", Institute of International Public Law and International Relations of Thessaloniki, *Thesaurus Acroasium. Might and Right in International Relations*, vol. 28, K. Koufa, ed. (Thessaloniki, Sakkoulas Publications, 1999), pp. 397-454.

A. International trade law

1. World Trade Organization/General Agreement on Tariffs and Trade

23. The protection of the environment was not a primary issue of concern when GATT was drafted in 1947. Article XX of GATT on general exceptions has subsequently become recognized as relevant in part to the environment; it reads as follows:

> Subject to the requirement that such measures are not applied in a manner which would constitute a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail, or a disguised restriction on international trade, nothing in this Agreement shall be construed to prevent the adoption or enforcement by any contracting party of measures: ... (b) necessary to protect human, animal or plant life or health; ... (g) relating to the conservation of exhaustible natural resources if such measures are made effective in conjunction with restrictions on domestic production or consumption.[61]

24. It was reported that, during the negotiation of the Montreal Protocol on Substances that Deplete the Ozone Layer in 1987, the compatibility of its article 4 ("Control of trade with non-parties") with the GATT rules on free trade was questioned. However, that does not seem to have raised any serious controversy,[62] unlike the heated discussions that took place worldwide on trade and environment that were sparked by the reports of the Dispute Settlement Panel of GATT on the *Tuna-Dolphin* dispute (*Restrictions on Tuna and Tuna Products, Mexico v. United States* and *Restrictions on Imports of Tuna, European Economic Community and the Netherlands v. United States*).[63] In both cases, interpretation of article XX, paragraphs 1 (*b*) and (*g*), of GATT was the central issue.

25. In 1995, WTO came into being under the Marrakesh Agreement establishing the WTO, into which GATT has been incorporated without substantial change as an annex. The first paragraph of the preamble of the Marrakesh Agreement provides that the aim of WTO is to reconcile trade and development goals with environmental needs "in accordance with the objective of sustainable development". As such, it has added a new dimension to the trade and environment issue. The WTO Committee on Trade and Environment began pursuing its activities "with the aim of making international trade and environmental policies mutually supportive",[64] and in its 1996 report to the Singapore Ministerial Conference, the Committee reiterated its position stating that the WTO system and environmental protection are "two areas of policy-making [that] are both important and ... should be mutually supportive in order to promote sustainable development",[65] adding that they are both "representative of efforts of the international community to pursue shared goals, and in the development of a mutually supportive relationship between

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[61] See, in general, on the issue of trade and environment, Murase, "Perspectives from international economic law ..." and "Conflict of international regimes ..." (footnote 29 above).

[62] P.M. Lawrence, "International legal regulations for the protection of the ozone layer: some problems of implementation", *Journal of Environmental Law*, vol. 2 (1990), pp. 17-52.

[63] GATT, Panel report, *United States — Restrictions on Imports of Tuna*, DS21/R-39S/155, 3 September 1991, (Tuna-Dolphin I, not adopted); GATT, Panel report, *United States — Restrictions on Imports of Tuna*, DS29/R, 16 June 1994 (Tuna-Dolphin II, not adopted). See also T.J. Schoenbaum, "Free international trade and protection of the environment: irreconcilable conflict?", *American Journal of International Law*, vol. 86 (1992), pp. 700-727.

[64] Trade Negotiations Committee, decision of 14 April 1994, MTN.TNC/45(MIN), annex II, p. 17.

[65] WTO, Committee on Trade and Environment, Report (1996), WT/CTE/1 (12 November 1996), para. 167.

them, due respect must be afforded to both".[66] As the concept of mutual supportiveness has become gradually regarded as "a legal standard *internal* to the WTO",[67] the Doha Ministerial Declaration[68] expresses the conviction of States that "the aims of upholding and safeguarding an open and non-discriminatory multilateral trading system, and acting for the protection of the environment and the promotion of sustainable development can and must be mutually supportive".[69]

2. Free trade agreements

26. Free trade agreements also incorporate mutual supportiveness for dealing with the interrelationship between trade and the environment. For instance, article 17.12 of the Dominican Republic-Central America-United States Free Trade Agreement stipulates that "the Parties shall continue to seek means to enhance the mutual supportiveness of multilateral environmental agreements to which they are all party and trade agreements to which they are all party".[70] Some other recent free trade agreements, such as the one between Canada and the European Free Trade Association, recognize "the need for mutually supportive trade and environmental policies in order to achieve the objective of sustainable development".[71] More recently, the Comprehensive Economic and Trade Agreement (CETA) between Canada, of the one part, and the European Union and its Member States, of the other part,[72] provides, in Chapter 24 ("Trade and environment"), article 24.4, paragraph 1, that: "The Parties recognise the value of international environmental governance and agreements as a response of the international community to global or regional environmental problems and stress the need to enhance the mutual supportiveness between trade and environment policies, rules, and measures."

3. Multilateral environmental agreements

27. The concept of mutual supportiveness is integrated into multilateral environmental agreements that relate to the protection of the atmosphere. Article 3, paragraph 5, of the United Nations Framework Convention on Climate Change reflects this concept, providing that: "The Parties should cooperate to promote a supportive and open international economic system that would lead to sustainable economic growth and development in all Parties, particularly developing country

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[66] Ibid., para. 171.

[67] Pavoni, "Mutual supportiveness ... (see footnote 43 above), p. 652.

[68] Adopted on 14 November 2001 at the fourth session of the WTO Ministerial Conference in Doha, WT/MIN(01)/DEC/1.

[69] Ibid., para. 6. The Hong Kong Ministerial Declaration of 2005 reaffirmed "the mandate in paragraph 31 of the Doha Ministerial Declaration aimed at enhancing the mutual supportiveness of trade and environment ..." (adopted on 18 December 2005 at the sixth session of the Ministerial Conference in Hong Kong, China, WT/MIN(05)/DEC, para. 30).

[70] Signed on 5 August 2004. Available from https://ustr.gov/trade-agreements/free-trade-agreements/cafta-dr-dominican-republic-central-america-fta/final-text (accessed 20 February 2017).

[71] The Free Trade Agreement Between Canada and the States of the European Free Trade Association (Iceland, Liechtenstein, Norway and Switzerland) was signed in Davos, Switzerland, on 26 January 2008. Available from www.efta.int/media/documents/legal-texts/free-trade-relations/canada/EFTA-Canada%20Free%20Trade%20Agreement%20EN.pdf (accessed 20 February 2017).

[72] *Official Journal of the European Union*, L11, 14 January 2017, pp. 23-1079. See also the Trans-Pacific Partnership Agreement, the legally verified text of which was released on 26 January 2016; art. 20.2, para. 1, states that the objectives of the Environment Chapter are "to promote mutually supportive trade and environmental policies; promote high levels of environmental protection and effective enforcement of environmental laws; and enhance the capacities of the Parties to address trade-related environmental issues, including through cooperation". The Agreement has not yet come into force. The full text is available at www.mfat.govt.nz/en/about-us/who-we-are/treaties/trans-pacific-partnership-agreement-tpp (accessed 20 February 2017).

Parties, thus enabling them better to address the problems of climate change." Furthermore, the Stockholm Convention on Persistent Organic Pollutants recognizes in its Preamble that "[the] Convention and other international agreements in the field of trade and the environment are mutually supportive".[73] The Minamata Convention on Mercury[74] also recognizes mutual supportiveness in similar language.

4. Dispute settlement

28. The first case that the WTO Dispute Settlement Body and its Appellate Body dealt with was the 1996 *Gasoline* case,[75] which addressed the linkage between trade and the atmospheric environment in the context of WTO law. The Appellate Body recognized, in connection with the interpretation of article XX (*g*) of GATT, that clean air was an "exhaustible natural resource" that could be "depleted".[76] This decision was significant in its weighty reference to the principles and rules of international law. Criticizing the Panel report, the Appellate Body stated that:

> A principal difficulty, in the view of the Appellate Body, with the Panel Report's application of Article XX (g) ... is that the Panel there overlooked a fundamental rule of treaty interpretation. This rule has received its most authoritative and succinct expression in the [Vienna Convention] .... The "general rule of interpretation" set out [in article 31 of the Vienna Convention] has been relied upon by all of the participants and third participants, although not always in relation to the same issue. The general rule of interpretation has attained the status of a rule of customary or general international law. As such, it forms part of the "customary rules of interpretation of public international law" which the Appellate Body has been directed, by Article 3(2) of the [Dispute Settlement Understanding], to apply in seeking to clarify the provisions of the *General Agreement* and the other "covered agreements" .... That direction reflects a measure of recognition that the *General Agreement* is not to be read in clinical isolation from public international law.[77]

As mentioned earlier (paragraph 20 above), the Appellate Body emphasized the importance of adopting systemic interpretation in a spirit of mutual supportiveness and sustainable development. The *Gasoline* case was both a strong example of the principle of mutual supportiveness as well as an instance in which law related to the protection of the atmosphere itself contributed to the broader development of international law.

29. The *Shrimp/Turtle* case[78] was another example of WTO law as it related to environmental protection; and while not directly addressing atmospheric pollution,

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[73] United Nations, *Treaty Series*, vol. 2256, No. 40214, p. 119, at p. 215.

[74] See document UNEP(DTIE)/Hg/CONF/3.

[75] See footnote 52 above. In this case, Brazil and Venezuela (Bolivarian Republic of) requested the WTO Dispute Settlement Body to examine the compatibility of the United States Clean Air Act and the "baseline establishment methods" of the United States Environmental Protection Agency with the relevant WTO/GATT provisions. The Clean Air Act and its regulations (amended in 1990) are intended to prevent and control air pollution in the United States by setting standards for gasoline quality and motor vehicles emissions. See the first report of the Special Rapporteur (A/CN.4/667), para. 49.

[76] See the WTO Appellate Body report (footnote 52 above), p. 14, quoting the Panel's report.

[77] Ibid., pp. 16-17. See also D.M. McRae, "GATT article XX and the WTO Appellate Body", in *New Directions in International Economic Law: Essays in Honour of John H. Jackson*, M. Bronkers and R. Quick, eds. (Alphen aan den Rijn, Kluwer Law International, 2000), pp. 219-236; and J. Gomula, "Environmental disputes in the WTO", in *Research Handbook on International Environmental Law*, M. Fitzmaurice, D. Ong and P. Merkouris, eds. (Cheltenham, Edward Elgar, 2010), pp. 401-425.

[78] See footnote 49 above. See Gomula, "Environmental disputes ..." (footnote 77 above), pp. 408-411.

its broader environmental principles are pertinent here. Mutual supportiveness between trade and environmental regimes was a central principle in that case.[79] The Appellate Body reversed the Panel's finding that, while qualifying for provisional justification under article XX (g), the measures in question by the United States failed to meet the requirements of that *chapeau* of article XX. The Appellate Body referred to mutual supportiveness explicitly and acknowledged its close link with the goal of sustainable development that had been proclaimed by the Preamble to the WTO Agreement. Guided by this principle, the Appellate Body sought a proper balance when interpreting the *chapeau* of article XX that the exceptions in that article must not be "applied in a manner which would constitute a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail, or a disguised restriction on international trade". The Appellate Body regards the *chapeau* as "'ne expression of the principle of good faith";[80] hence, its fundamental purpose i. to prevent the abuse of the exceptions set out in article XX and to maintain the balance of rights and obligations within the WTO legal system. Since the United States had failed to engage in meaningful multilateral negotiations with the States concerned to conclude agreements for the protection of sea turtles, the Appellate Body held that the measure of the United States at issue was not within the scope of measures permitted under the *chapeau* of article XX. In short, in this landmark case, mutual supportiveness was acknowledged by the Appellate Body as a standard internal to the WTO legal system, not one borrowed from outside sources, affirming that: "The need for, and the appropriateness of, such concerted and cooperative efforts have been recognized in the WTO itself as well as in a significant number of other international instruments and declarations."[81]

30. The judgment of the European Court of Justice on 21 December 2011, in *Air Transport Association of America and Others v. Secretary of State for Energy and Climate*,[82] affirmed the validity of the inclusion of aviation activities in the European Union Emissions Trading Scheme within Directive 2008/101/EC.[83] The entry into force on 1 January 2012 of certain parts of the European Union Aviation Directive concerning both European Union and non-European Union airlines entering and leaving European Union airspace had an impact on international trade and has therefore given rise to international tensions. Although the European Court of Justice considers the European Union Emissions Trading Scheme as compatible with international law and aviation agreements, the Aviation Directive might still be challenged as violating WTO law. Developing climate change measures consistently with WTO rules requires striking an appropriate balance between giving WTO

[79] See H. Ruiz Fabri, "Jeux dans la fragmentation: la Convention sur la promotion et la protection de la diversité des expressions culturelles", *Revue générale de droit international public*, vol. 111, No. 1 (2007), p. 79; N. Bernasconi-Osterwalder, "Interpreting WTO law and the relevance of multilateral environmental agreements in *EC-Biotech*", background note to the presentation at the British Institute of International and Comparative Law, Seventh Annual WTO Conference (22-23 May 2007), pp. 9 and 11.

[80] *Shrimp/Turtle* case (see footnote 49 above), para. 158.

[81] Ibid., para. 168.

[82] Judgment of the Court (Grand Chamber), 21 December 2011, Case C-366/10, *European Court Reports 2011*; J. Meltzer, "Climate change and trade — The EU Aviation Directive and the WTO", *Journal of International Economic Law*, vol. 15, No. 1 (2012), pp. 111-156; L. Bartels, "The WTO legality of the application of the EU's Emission Trading System to aviation", *European Journal of International Law*, vol. 23, No. 2 (2012), pp. 429-467; A. Piera Valdes, *Greenhouse Gas Emissions from International Aviation: Legal and Policy Analysis* (The Hague, Eleven International Publishing, 2015).

[83] Directive 2008/101/EC of the European Parliament and the Council of 19 November 2008 amending Directive 2003/87/EC so as to include aviation activities in the scheme for greenhouse gas emission allowance trading within the Community (*Official Journal of the European Union*, L 8, 13 January 2009).

members the policy space to take action to reduce greenhouse gas emissions, while maintaining an open and non-discriminatory trading system that supports economic growth and global welfare. Faced with heated criticisms from non-European Union countries, the European Union has since temporarily suspended the application of the Emissions Trading Scheme to flights originating from or to non-European countries (Decision No. 377/2013/EU of 24 April 2013 and Regulation (EU) No. 421/2014 of 16 April 2014), pending the implementation of global market-based measures adopted by the Assembly of the International Civil Aviation Organization (ICAO) in the form of a new Carbon Offsetting and Reduction Scheme for International Aviation, which is scheduled to enter into force on a voluntary basis in 2021 and in a mandatory second phase from 2027 onwards (ICAO Assembly resolution A39-3). The measures in question, however, could potentially be challenged by non-European countries in other forums, illustrating the trade versus environment conflict, which should be settled in a conciliatory and mutually supportive manner.[84]

B. International investment law

31. As in the field of international trade law, there is a growing awareness in international investment law regarding the importance of sustainable development and mutual supportiveness in the protection of investment and the protection of the environment.[85] Trade is basically a one-time transaction between the parties (a seller and a buyer), whose contractual relation ceases to exist when the transaction is completed. In contrast, investment normally requires a long-term commitment between the parties (an investor and an investee), and therefore the significance of environmental protection in international investment agreements can be far more important in investment than in trade. The multilateral agreement on investment sponsored by the Organization for Economic Cooperation and Development would have established global investment rules, but negotiations failed in 1998.[86] There are now two main sources of international investment law: free trade agreements and bilateral investment treaties. It is said that there are now more than 358 of the former and 2,946 of the latter in force that contain provisions governing foreign direct investment.[87] This body of international investment law defines the rights of foreign investors in host countries. Those investor rights typically specify the terms of "national" and "most-favoured-nation" treatment and guarantee "fair and

[84] With regard to potential disputes regarding the European Union Emissions Trading Scheme before the ICAO Council, see J. Bae, "Review of the dispute settlement mechanism under the International Civil Aviation Organization: contradiction of political body adjudication", *Journal of International Dispute Settlement*, vol. 4, No. 1 (2013), pp. 65-81. Regarding the activities of ICAO to combat climate change in the field of aviation, see ICAO Assembly resolution A39-3 on consolidated statement of continuing ICAO policies and practices related to environmental protection — Climate Market-based Measure (MBM) scheme, adopted by the Assembly at its thirty-ninth session, Montreal, 27 September-6 October 2016; and T. Ahmad, "Environmental law: emissions", in *Routledge Handbook of Public Aviation Law*, P.S. Dempsey and R.S. Jakhu, eds. (London, Routledge, 2017), pp. 195-251, at pp. 243-248.

[85] The Special Rapporteur is particularly grateful to Yuka Fukunaga, Professor, Waseda University, for supplying the relevant material and drafting parts of the present report on international investment law.

[86] Available from www.oecd.org/investment/internationalinvestmentagreements/multilateralagreementoninvestment.htm (accessed 20 February 2017).

[87] United Nations Conference on Trade and Development, *World Investment Report 2016; Investor Nationality: Policy Challenges* (United Nations publication, Sales No. E.16.II.D.4), p. 20. Available from http://unctad.org/en/PublicationsLibrary/wir2016_en.pdf (accessed 20 February 2017).

equitable treatment" against expropriation.[88] Here, protection of foreign investment (or investors) may come into conflict with the protection of the environment, which can and should be reconciled in a spirit of mutual supportiveness.[89]

1. Treaty practice

32. Among the free trade agreements, the North American Free Trade Agreement (NAFTA), concluded by Canada, Mexico and the United States, may be most notable in that it has incorporated a number of important provisions and institutions for the protection of the environment. While chapter 11 on "Investment" provides for various aspects of protecting foreign investments and investors (articles 1101-1105), it also has certain provisions pertinent to the protection of the environment, such as article 1106, paragraph 6, on the exception to the restriction on "performance requirements"[90] and article 1110 on "expropriation and compensation".[91] Most notably, article 1114 on "environmental measures" provides, in paragraph 1, that: "Nothing in this Chapter [on investment] shall be construed to prevent a Party from adopting, maintaining or enforcing any measure otherwise consistent with this Chapter that it considers appropriate to ensure that investment activity in its territory is undertaken in a manner sensitive to environmental concerns."

While this paragraph stops short of justifying measures otherwise inconsistent with the chapter, it confirms that the parties are not prevented from taking appropriate environmental measures as long as they abide by the obligations under the chapter. Paragraph 2 of article 1114 directs the parties not to relax their environmental rules to attract foreign investment, providing that:

> The Parties recognize that it is inappropriate to encourage investment by relaxing domestic health, safety or environmental measures. Accordingly, a Party should not waive or otherwise derogate from, or offer to waive or

[88] T.J. Schoenbaum and M.K. Young, *International Environmental Law: Cases, Materials, and Problems*, 2nd ed. (New Providence, LexisNexis, 2014), pp. 644-655.

[89] P.M. Dupuy and J.E. Viñuales, eds., *Harnessing Foreign Investment to Promote Environmental Protection: Incentives and Safeguards* (Cambridge, United Kingdom, Cambridge University Press, 2013); J.E. Viñuales, *Foreign Investment and the Environment in International Law* (Cambridge, United Kingdom, Cambridge University Press, 2012); T.L. Slater, "Investor-State arbitration and domestic environmental protection", *Washington University Global Studies Law Review*, vol. 14 (2015), pp. 131-154; C.L. Beharry and M.E. Kuritzky, "Going green: managing the environment through international investment arbitration", *American University International Law Review*, vol. 30 (2015), pp. 383-429; M. Condon, "The integration of environmental law into international investment treaties and trade agreements: negotiation process and the legalization of commitments", *Virginia Environmental Law Journal*, vol. 33 (2015), pp. 102-152; K. Gordon and J. Pohl, "Environmental concerns in international investment agreements: a survey", *OECD Working Papers on International Investment*, No. 2011/1 (2011); S. Baughen, "Expropriation and environmental regulation: the lessons of NAFTA chapter eleven", *Journal of Environmental Law*, vol. 18 (2006), pp. 207-228; O.K. Fauchald, "International investment law and environmental protection", *Yearbook of International Environmental Law*, vol. 17, No. 1 (2006), pp. 3-47.

[90] Art. 1106, para. 6, of NAFTA provides: "Provided that such measures are not applied in an arbitrary or unjustifiable manner, or do not constitute a disguised restriction on international trade or investment, nothing in paragraph 1(b) or (c) or 3(a) or (b) shall be construed to prevent any Party from adopting or maintaining measures, including environmental measures:

(a) necessary to secure compliance with laws and regulations that are not inconsistent with the provisions of this Agreement;

(b) necessary to protect human, animal or plant life or health; or

(c) necessary for the conservation of living or non-living exhaustible natural resources."

[91] Art. 1110, para. 1 (*a*), of NAFTA provides for "a public purpose" (which includes cases of environmental protection) as an exception to the rule prohibiting expropriation of foreign investment.

> otherwise derogate from, such measures as an encouragement for the establishment, acquisition, expansion or retention in its territory of an investment of an investor. If a Party considers that another Party has offered such an encouragement, it may request consultations with the other Party and the two Parties shall consult with a view to avoiding any such encouragement.

This paragraph seeks to ensure that the parties do not engage in a so-called "race to the bottom" to attract foreign investment. In addition to article 1114, NAFTA provides for the primacy of certain environmental and conservation agreements.

33. According to article 104, paragraph 1, of NAFTA:

> In the event of any inconsistency between this Agreement and the specific trade obligations set out in:
>
> (a) the *Convention on International Trade in Endangered Species of Wild Fauna and Flora*, done at Washington, March 3, 1973, as amended June 22, 1979,
>
> (b) the *Montreal Protocol on Substances that Deplete the Ozone Layer*, done at Montreal, September 16, 1987, as amended June 29, 1990,
>
> (c) the *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal*, done at Basel, March 22, 1989, on its entry into force for Canada, Mexico and the United States, or
>
> (d) the agreements set out in Annex 104.1,
>
> such obligations shall prevail to the extent of the inconsistency, provided that where a Party has a choice among equally effective and reasonably available means of complying with such obligations, the Party chooses the alternative that is the least inconsistent with the other provisions of this Agreement.[92]

34. One of the most recent free trade agreements is the Comprehensive Economic and Trade Agreement between Canada and the European Union and its Member States, signed at the EU-Canada Summit on 30 October 2016.[93] In view of the recent concern that investment agreements and investment arbitration adversely affect the regulatory autonomy of States,[94] the Agreement explicitly acknowledges the importance of the right to regulate environmental issues. For example, article 8.4, paragraph 2 (*d*), confirms that "a measure seeking to ensure the conservation and protection of natural resources and the environment, including a limitation on the availability, number and scope of concessions granted, and the imposition of a moratorium or ban" is consistent with paragraph 1 of the provision, which provides that a party shall not adopt or maintain limitations and restrictions "with respect to market access through establishment by an investor of the other Party". In addition, article 8.9, paragraph 1, provides that: "the Parties reaffirm their right to regulate within their territories to achieve legitimate policy objectives, such as the protection

[92] Annex 104.1 specifies the Agreement between the Government of the United States of America and the Government of Canada concerning the transboundary movement of hazardous waste, and the Agreement between the United Mexican States and the United States of America on cooperation for the protection and improvement of the environment in the border area.

[93] Not yet in force; however, the text of the Agreement is available from http://ec.europa.eu/trade/policy/in-focus/ceta/ceta-chapter-by-chapter (accessed 20 February 2017).

[94] See, e.g., C. Henckels, *Proportionality and Deference in Investor-State Arbitration: Balancing Investment Protection and Regulatory Autonomy* (Cambridge, United Kingdom, Cambridge University Press, 2015), pp. 1-4; and J. Bonnitcha, *Substantive Protection under Investment Treaties: A Legal and Economic Analysis* (Cambridge, United Kingdom, Cambridge University Press, 2014), pp. 113-133.

of public health, safety, the environment or public morals, social or consumer protection or the promotion and protection of cultural diversity."

35. More specifically, paragraph 4 of article 8.9 provides that: "nothing in this Section shall be construed as preventing a Party from discontinuing the granting of a subsidy or requesting its reimbursement where such measure is necessary in order to comply with international obligations between the Parties". It is presumed that this paragraph is a response to the accumulation of investor-State arbitration claims against Spain in the wake of the reduction of feed-in tariffs there. The importance of the right to regulate is also recognized in paragraphs 2 and 9 of the Joint Interpretative Instrument on the Agreement. In particular, paragraph 9 of the Instrument directly addresses climate change as follows:

> 9. Environmental Protection
>
> (a) [the Agreement] commits the European Union and its Member States and Canada to provide for and encourage high levels of environmental protection, as well as to strive to continue to improve such laws and policies and their underlying levels of protection.
>
> (b) [the Agreement] explicitly recognises the right of Canada and of the European Union and its Member States, to set their own environmental priorities, to establish their own levels of environmental protection and to adopt or modify their relevant laws and policies accordingly, mindful of their international obligations, including those set by multilateral environmental agreements. At the same time in [the Agreement] the European Union and its Member States and Canada have agreed not to lower levels of environmental protection in order to encourage trade or investment and, in case of any violation of this commitment, governments can remedy such violations regardless of whether these negatively affect an investment or investor's expectations of profit.
>
> (c) [the Agreement] includes commitments towards the sustainable management of forests, fisheries and aquaculture. It also includes commitments to cooperate on trade-related environmental issues of common interest such as climate change where the implementation of the [2015] Paris Agreement will be an important shared responsibility for the European Union and its Member States and Canada.

36. The Agreement has other provisions that, although not referring explicitly to environmental issues, ensure that certain measures are not taken as these would violate the obligations of the parties on account that they are arbitrary or unjustifiable. For example, article 8.10, paragraph 2, provides that: "A Party breaches the obligation of fair and equitable treatment ... if a measure or series of measures constitutes", among others, "manifest arbitrariness", "targeted discrimination on manifestly wrongful grounds" or "abusive treatment of investors". With respect to indirect expropriation, paragraph 3 of annex 8-A states that: "except in the rare circumstance when the impact of a measure or series of measures is so severe in light of its purpose that it appears manifestly excessive, non-discriminatory measures of a Party that are designed and applied to protect legitimate public welfare objectives, such as health, safety and the environment, do not constitute indirect expropriations." Moreover, the Agreement follows the emerging trend of recently agreed free trade agreements and bilateral investment treaties to incorporate the general exception under article XX of GATT, or its equivalent, into the chapter on investment.[95]

[95] Art. 28.3, para. 1. It explicitly confirms that: "Article XX(g) of the GATT 1994 applies to

37. NAFTA and the Comprehensive Economic and Trade Agreement are not isolated examples of recognition of the need for mutual supportiveness and sustainable development. Most of the free trade agreements and bilateral investment treaties in force today contain provisions that, in one way or another, protect the environment. For example, a number of free trade agreements and bilateral investment treaties concluded by Canada, Colombia and the United States include a provision similar to article 1114, paragraph 1, of NAFTA and article 8.9 of the Comprehensive Economic and Trade Agreement, which confirm the parties' right to regulate environmental issues.[96] These agreements also often stipulate that it is inappropriate to encourage investment by relaxing domestic health, safety or environmental measures, in a similar way to article 1114, paragraph 2, of NAFTA.[97] In addition, some free trade agreements and bilateral investment treaties concluded by Canada explicitly recognize the importance of sustainable development. For example, the Free Trade Agreement between Canada and the Republic of Korea states in the preamble that the parties are resolved to "promote sustainable development" and recognizes, I n article 17.1, paragraph 2, that "economic development and environmental protection are interdependent and mutually reinforcing components of sustainable development". Another noticeable practice that can be seen particularly in free trade agreements agreed to by Canada is to provide interpretative guidance for arbitrators with respect to indirect expropriation in order to clarify that environmental measures constitute indirect expropriation only in rare circumstances.[98] Similarly, bilateral investment treaties concluded by Colombia often provide that measures taken in good faith for reasons of public good or social interest, such as environmental protection, shall not constitute indirect expropriation as long as they are non-discriminatory, non-arbitrary and not disproportionate in light of their purpose.[99]

38. A few free trade agreements also include a provision equivalent to article 104, paragraph 1, of NAFTA, which provides for its relationship with environmental agreements. For example, article 1.3 of the Free Trade Agreement between Canada and the Republic of Korea provides that:

> In the event of an inconsistency between a Party's obligations under this Agreement and the Party's obligations under an agreement listed in

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measures for the conservation of living and non-living exhaustible natural resources." See also art. 28.3, para. 2.

[96] See, e.g., the Dominican Republic-Central America-United States Free Trade Agreement, art. 10.11; Treaty between the United States of America and the Oriental Republic of Uruguay concerning the Encouragement and Reciprocal Protection of Investment, art. 12, para. 2; Free Trade Agreement between Canada and the Republic of Korea, art. 8.10, para. 1; Bilateral Agreement for the Promotion and Protection of Investments between the Government of the United Kingdom of Great Britain and Northern Ireland and Republic of Colombia, art. VIII; Agreement between Japan and the Republic of Colombia for the Liberalization, Promotion and Protection of Investment, art. 21, para. 2.

[97] See, e.g., Treaty between the United States of America and the Oriental Republic of Uruguay concerning the Encouragement and Reciprocal Protection of Investment, art. 12, para. 1; Free Trade Agreement between Canada and the Republic of Korea, art. 8.10, para. 2; Agreement Between the Government of Canada and the Government of the Republic of Côte D'Ivoire for the Promotion and Protection of Investments, art. 15, para. 1; Agreement between Japan and the Republic of Colombia for the Liberalization, Promotion and Protection of Investment, art. 21, para. 1.

[98] See, e.g., the Free Trade Agreement between Canada and the Republic of Korea, annex 8-B, para. (*d*); Agreement Between the Government of Canada and the Government of the Republic of Côte D'Ivoire for the Promotion and Protection of Investments, annex B.10.

[99] See, e.g., Bilateral Agreement for the Promotion and Protection of Investments between the Government of the United Kingdom of Great Britain and Northern Ireland and Republic of Colombia, art. VI, para. 2 (*c*).

> Annex 1-A, a Party is not precluded from taking a particular measure necessary to comply with its obligations under an agreement listed in Annex 1-A, provided that the measure is not applied in a manner that would constitute, where the same conditions prevail, arbitrary or unjustifiable discrimination, or a disguised restriction on international trade.[100]

Article 11, paragraph 3, of the Agreement between the Belgium-Luxembourg Economic Union and Barbados for the reciprocal promotion and protection of investments provides that: "The Contracting Parties reaffirm their commitments under the international environmental agreements, which they have accepted. They shall strive to ensure that such commitments are fully recognised and implemented by their domestic legislation."

39. Moreover, some free trade agreements and bilateral investment treaties take a step further by providing an exception that justifies environmental measures otherwise inconsistent with treaty obligations. For example, the Agreement between the Government of Canada and the Government of the Hong Kong Special Administrative Region of the People's Republic of China for the Promotion and Protection of Investments, which came into effect in September 2016, provides for general exceptions under article 17, paragraph 1 of which states that "Provided that such measures are not applied in an arbitrary or unjustifiable manner, or do not constitute a disguised restriction on international trade or investment, nothing in this Agreement shall be construed to prevent a Party from adopting or maintaining measures, including environmental measures", for example "necessary to protect human, animal or plant life or health". Similarly, article 15, paragraph 1, of the Agreement between Japan and the Republic of Colombia for the Liberalization, Promotion and Protection of Investment provides that:

> Subject to the requirement that such measures are not applied by a Contracting Party in a manner which would constitute a means of arbitrary or unjustifiable discrimination against the other Contracting Party, or a disguised restriction on investments of investors of that other Contracting Party in the Area of the former Contracting Party, nothing in this Agreement ... shall be construed to prevent that former Contracting Party from adopting or enforcing measures, including those to protect the environment ... necessary to protect human, animal or plant life or health.

The free trade agreements and bilateral investment treaties mentioned above are generally in line with the model treaties adopted by Canada (2004),[101] Colombia (2007)[102] and the United States (2012).[103] Furthermore, the Model International Agreement on Investment for Sustainable Development (revised in 2006)[104] of the

[100] Annex 1-A lists the following agreements: "(a) The *Convention on International Trade in Endangered Species of Wild Fauna and Flora*, done at Washington on 3 March 1973, as amended on 22 June 1979; (b) The *Montreal Protocol on Substances that Deplete the Ozone Layer*, done at Montreal on 16 September 1987, as amended 29 June 1990, as amended 25 November 1992, as amended 17 September 1997, as amended 3 December 1999; (c) The *Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal*, done at Basel on 22 March 1989; (d) The *Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade*, done at Rotterdam on 10 September 1998; (e) The *Stockholm Convention on Persistent Organic Pollutants*, done at Stockholm on 22 May 2001".

[101] Available from www.italaw.com/documents/Canadian2004-FIPA-model-en.pdf (accessed 20 February 2017).

[102] Available from www.italaw.com/documents/inv_model_bit_colombia.pdf (accessed 20 February 2017).

[103] Available from www.italaw.com/sites/default/files/archive/ita1028.pdf (accessed 20 February 2017).

[104] H. Mann and others, *IISD Model International Agreement on Investment for Sustainable*

International Institute for Sustainable Development serves as a model example, recognizing in its Preamble that: "the promotion of sustainable investments is critical for the further development of national and global economies, as well as for the pursuit of national and global objectives for sustainable development". In a similar vein, the United Nations Conference on Trade and Development has proposed policy options for free trade agreements and bilateral investment treaties to incorporate sustainable development.[105]

2. Arbitral cases

40. In several investment arbitral cases, environmental measures were claimed to violate the obligations of free trade agreements and bilateral investment treaties, in particular, the obligation of fair and equitable treatment. Jurisprudence has been developed particularly under NAFTA to ensure that a State's right to regulate environmental issues be respected, at least to a certain extent, in an examination of fair and equitable treatment. For example, in the case *S.D. Myers, Inc. v. Government of Canada*,[106] a United States investor challenged a Canadian legislative order banning exports of polychlorinated biphenyls and associated waste on the grounds of violation of, inter alia, article 1105 of NAFTA, which provides for fair and equitable treatment. The Canadian ban had been adopted purportedly on the grounds of significant danger to the environment and to human life and health. The arbitral tribunal found that the ban was intended primarily to protect the Canadian polychlorinated biphenyl disposal industry from competition from the United States and that there was no legitimate reason for introducing the ban. In interpreting the rules of NAFTA, the arbitral tribunal referred to a range of environmental agreements, including the Agreement between the United States and Canada concerning the Transboundary Movement of Hazardous Waste, the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal and the North American Agreement on Environmental Cooperation, stating that:

> NAFTA should be interpreted in the light of the following general principles:
>
> - Parties have the right to establish high levels of environmental protection. They are not obliged to compromise their standards merely to satisfy the political or economic interests of other states;
> - Parties should avoid creating distortions to trade;
> - Environmental protection can and should be mutually supportive.[107]

Development, 2nd ed. (Winnipeg, 2005), available from www.iisd.org/pdf/2005/investment_model_int_agreement.pdf (accessed 20 February 2017). The Institute is an independent, non-governmental and non-profit organization that occasionally submits *amicus curiae* to international investment dispute tribunals.

[105] United Nations Conference on Trade and Development, *Investment Policy Framework for Sustainable Development* (2015), pp. 91-121, available from http://unctad.org/en/PublicationsLibrary/diaepcb2015d5_en.pdf (accessed 20 February 2017). See also P. Muchlinski, "Negotiating new generation international investment agreements: new sustainable development", in *Shifting Paradigms in International Investment Law: More Balanced, Less Isolated, Increasingly Diversified*, S. Hindelang and M. Krajewski, eds. (Oxford, Oxford University Press, 2016), pp. 41-64.

[106] United Nations Commission on International Trade Law (UNCITRAL), first partial award and separate opinion of Mr. Bryan Schwartz (12 and 13 November 2000, respectively). See, P. Sands and J. Peel, *Principles of International Environmental Law*, 3rd ed. (Cambridge, United Kingdom, Cambridge University Press, 2012), pp. 876-885.

[107] First partial award, para. 220. The second partial award of 21 October 2002 awarded the claimant 6.05 million Canadian dollars in damage, with interest.

The tribunal went on to state that "a breach of Article 1105 occurs only when it is shown that an investor has been treated in such an *unjust or arbitrary* manner that the treatment rises to the level that is unacceptable from the international perspective", and that the examination of article 1105 "must be made in the light of the *high measure of deference* that international law generally extends to the right of domestic authorities to regulate matters within their own borders" and "must also take into account any specific rules of international law that are applicable to the case".[108]

41. Other NAFTA investment cases broadly follow the general framework of mutual supportiveness between the protection of foreign investment and the protection of the environment as well as the interpretation of the fair and equitable treatment standard affirmed by *S.D. Myers*, though the jurisprudence is not necessarily consistent.[109] In the 2015 award of *Bilcon of Delaware and others v. Canada*,[110] the tribunal agreed with other NAFTA tribunals, including the *S.D. Myers* tribunal, stating that "there is indeed a high threshold for Article 1105 to apply",[111] and decided to apply the formulation applied by the *Waste Management* tribunal.[112]

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[108] First partial award, para. 263 (emphasis added).

[109] See, e.g., *Waste Management, Inc. v. United Mexican States*, International Centre for Settlement of Investment Disputes (ICSID) Case No. ARB(AF)/98/2, NAFTA, award, 2 June 2000; *Metalclad Corporation v. United Mexican States*, ICSID Case No ARB(AF)/97/1, award, 30 August 2000; *Técnicas Medioambientales Tecmed, S. A. v. United Mexican States*, ICSID Case No. ARB(AF)/00/2, award, 29 May 2003; *Empresas Lucchetti, S.A. and Lucchetti Peru, S.A. v. Republic of Peru*, ICSID Case No. ARB/03/4, award, 7 February 2005; *Methanex Corporation v. United States of America*, UNCITRAL, NAFTA, final award on jurisdiction and merits, 3 August 2005; *Saluka Investments B.V. v. Czech Republic*, UNCITRAL, partial award, 17 March 2006; *Bayview Irrigation District et al. v. United Mexican States*, ICSID Case No. ARB(AF)/05/1, NAFTA, award, 19 June 2007; *Biwater Gauff (Tanzania) Limited v. United Republic of Tanzania*, ICSID Case No. ARB/05/22, concurring and dissenting opinion, 18 July 2008; *Chemtura Corporation v. Government of Canada*, UNCITRAL, NAFTA, award, 2 August 2010; *Glamis Gold, Ltd. v. United States of America*, UNCITRAL, NAFTA, award, 8 June 2009; *Grand River Enterprises Six Nations, Ltd., et al. v. United States of America*, UNCITRAL, NAFTA, award, 12 January 2011; *Vattenfall AB, Vattenfall Europe AG, Vattenfall Europe Generation AG v. Federal Republic of Germany*, ICSID Case No. ARB/09/6, award, 11 March 2011; *Commerce Group Corp and San Sebastian Gold Mines, Inc. v Republic of El Salvador*, ICSID Case No ARB/09/17, award, 14 March 2011; *El Paso Energy International Company v. Argentine Republic*, ICSID Case No. ARB/03/15, award, 31 October 2011; *Gold Reserve Inc. v. Bolivarian Republic of Venezuela*, ICSID Case No. ARB(AF)/09/1, award, 22 September 2014; *Perenco Ecuador Limited v. Republic of Ecuador*, ICSID Case No. ARB/08/6, interim decision on the environmental counterclaim, 11 August 2015; *Charanne B.V. and Construction Investments S.A.R.L. v. Kingdom of Spain*, Stockholm Chamber of Commerce, Case No. 062/2012, Energy Charter Treaty, final award, 21 January 2016; *Quiborax S.A. and Non Metallic Minerals S. A. v. Plurinational State of Bolivia*, ICSID Case No. ARB/06/2, award, 16 September 2015; and *Mesa Power Group, LLC v. Government of Canada*, Permanent Court of Arbitration Case (PCA) No. 2012-17, UNCITRAL, NAFTA, award, 24 March 2016. See Schoenbaum and Young, *International Environmental Law* ... (footnote 88 above), pp. 644-655; Sands and Peel, *Principles of International Environmental Law* (footnote 106 above), pp. 876-883; and A. Reinisch, "Expropriation", in *The Oxford Handbook of International Investment Law*, P. Muchlinski, F. Ortino and C. Schreuer, eds. (Oxford, Oxford University Press, 2008), pp. 410-458.

[110] *William Ralph Clayton, William Richard Clayton, Douglas Clayton, Daniel Clayton and Bilcon of Delaware, Inc. v. Government of Canada*, PCA Case No 2009-04, UNCITRAL, NAFTA, award on jurisdiction and liability and dissenting opinion of Professor Donald McRae, 17 March and 10 March 2015, respectively.

[111] PCA Case No 2009-04 (see footnote 110 above), award on jurisdiction, para. 441.

[112] *Waste Management, Inc. v. United Mexican States*, No. 2, ICSID Case No. ARB(AF)/00/3, NAFTA, award, 30 April 2004, para. 98, quoted in PCA Case No 2009-04 (see footnote 110 above), award on jurisdiction, para. 442.

42. The formulation of article 1105 developed by the *S.D. Myers*, *Waste Management* and other NAFTA tribunals was also adopted in recent NAFTA cases involving renewable energy.[113]

43. Non-NAFTA cases generally follow the same pattern of analysis as the NAFTA precedents, citing the leading cases such as *S.D. Myers* as if it were its own relevant precedent, although textual differences of free trade agreements and bilateral investment treaties occasionally result in different interpretations of fair and equitable treatment. For instance, in the 2015 *Al Tamimi v. Oman* case,[114] the tribunal followed the formulation of the *S.D. Myers* tribunal in interpreting article 10.5 ("Minimum standard of treatment") of the free trade agreement between the United States and Oman, together with its annex 10-A,[115] and confirmed that "the minimum standard of treatment under customary international law imposes a relatively high bar for breach", and that "[b]reach of the minimum standard of treatment thus requires more than a minor derogation from the ideal standard of perfectly fair and equitable treatment".[116] Moreover, the tribunal noted that: "the US-Oman FTA places a high premium on environmental protection", given that "[t]he wording of Article 10.10 provides a forceful protection of the right of either State Party to adopt, maintain or enforce any measure to ensure that investment is '*undertaken in a manner sensitive to environmental concerns*'",[117] and that "[t]he very existence of Chapter 17 [entitled "Environment"] exemplifies the importance attached by the [contracting parties] to the enforcement of their respective environmental laws" and their intention "to reserve a significant margin of discretion to themselves in the application and enforcement of their respective environmental laws".[118] Thus, the tribunal found that "to establish a breach of the minimum standard of treatment under Article 10.5, the Claimant must show that [the respondent] has acted with a gross or flagrant disregard for the basic principles of fairness, consistency, even-handedness, due process, or natural justice expected by and of all States under customary international law. ... a breach of the minimum standard requires a failure, wilful or otherwise egregious, to protect a foreign

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[113] *Mesa Power Group, LLC v. Government of Canada*, para. 502; and *Windstream Energy LLC v. Government of Canada*, PCA Case No. 2013-22, UNCITRAL, NAFTA, award, 27 September 2016, para. 361, quoting *Mondev International Ltd. v. United States of America*, ICSID Case No. ARB(AF)/99/2, award, 11 October 2002, para. 118.

[114] *Adel A Hamadi Al Tamimi v. Sultanate of Oman*, ICSID Case No ARB/11/33, award, 3 November 2015.

[115] Annex 10-A of the Agreement between the Government of the United States of America and the Government of the Sultanate of Oman on the Establishment of a Free Trade Area states that: "The Parties confirm their shared understanding that 'customary international law' generally and as specifically referenced in Article 10.5 and Annex 10-B results from a general and consistent practice of States that they follow from a sense of legal obligation. With regard to Article 10.5, the customary international law minimum standard of treatment of aliens refers to all customary international law principles that protect economic rights and interests of aliens."

[116] *Adel A Hamadi Al Tamimi v. Sultanate of Oman*, paras. 382 and 384.

[117] Ibid., para. 387. Art. 10.10 states that: "Nothing in this Chapter shall be construed to prevent a Party from adopting, maintaining, or enforcing any measure otherwise consistent with this Chapter that it considers appropriate to ensure that investment activity in its territory is undertaken in a manner sensitive to environmental concerns."

[118] *Adel A Hamadi Al Tamimi v. Sultanate of Oman*, para. 389. For example, art. 17.2, para. 1, provides that: "(a) Neither Party shall fail to effectively enforce its environmental laws, through a sustained or recurring course of action or inaction, in a manner affecting trade between the Parties, after the date of entry into force of this Agreement. (b) The Parties recognize that each Party retains the right to exercise discretion with respect to investigatory, prosecutorial, regulatory, and compliance matters and to make decisions regarding the allocation of resources to enforcement with respect to other environmental matters determined to have higher priority. Accordingly, the Parties understand that a Party is in compliance with subparagraph (a) where a course of action or inaction reflects a reasonable exercise of such discretion, or results from a bona fide decision regarding the allocation of resources."

investor's basic rights and expectations".[119] Having reviewed the facts of the case, the tribunal dismissed the claimant's claim that the respondent breached the obligation for fair and equitable treatment.[120]

44. Beyond free trade agreements, there are cases of bilateral investment treaties in which jurisprudence on the relationship between investment and environment varies and is often unclear.[121] Nonetheless, as a general proposition, it appears that tribunals echo, either explicitly or implicitly, the necessity of reconciling the protection of foreign investment with the protection of the environment. Finally, it is worth mentioning the first arbitral award on the merits in the cases involving Spain's regulatory framework regarding generation systems based on photovoltaic solar energy. The tribunal in *Charanne*, brought under the Energy Charter Treaty, started its examination by noting that "the obligation to provide fair and equitable treatment is included in the more general obligation to create stable, equitable, favourable and transparent conditions" under article 10, paragraph 1, of the Energy Charter Treaty, and that to analyse whether the relevant measures violate the said article, "the existence of legitimate expectations of the investor is a relevant factor".[122] It further stated that "an investor has a legitimate expectation that, when modifying the existing regulation based on which the investment was made, the State will not act unreasonably, disproportionately or contrary to the public interest".[123] In other words, according to the tribunal, the respondent would be found to have violated article 10, paragraph 1, if it acted "unreasonably, against the public interest, or in a disproportionate fashion".[124] The tribunal concluded that the respondent did not violate the legitimate expectations under the Energy Charter Treaty by being "unreasonable, arbitrary, contrary to public interest, or disproportionate".[125]

45. Based on the analysis of the foregoing, the following draft guideline is proposed:

Draft guideline 10: Interrelationship between the law on the protection of the atmosphere and international trade and investment law

> **States should take appropriate measures in the fields of international trade law and international investment law to protect the atmosphere from atmospheric pollution and atmospheric degradation, provided that they shall not constitute a means of arbitrary or unjustifiable discrimination or a disguised restriction on international trade or foreign investment, respectively. In order to avoid any conflict, States should ensure that interpretation and application of relevant rules of international law conform to the principle of mutual supportiveness.**

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[119] *Adel A Hamadi Al Tamimi v. Sultanate of Oman*, para. 390.

[120] Ibid., paras. 394-453.

[121] *Emilio Agustín Maffezini v. Kingdom of Spain*, ICSID Case No. ARB/97/7, award, 13 November 2000; *Compañía del Dessarollo de Santa Elena S.A. v. Republic of Costa Rica*, ICSID Case No. ARB/96/1, final award, 17 February 2000, basing jurisdiction on ICSID; *Parkerings-Compagniet AS v. Republic of Lithuania*, ICSID Case No. ARB/05/8, award, 11 September 2007, applying the bilateral investment treaty between Lithuania and Norway; *Plama Consortium Limited v. Republic of Bulgaria*, ICSID Case No. ARB/03/24, award, 27 August 2008, applying the Energy Charter Treaty.

[122] *Charanne B.V. and Construction Investments S.A.R.L. v. Kingdom of Spain*, paras. 477 and 486.

[123] Ibid., para. 514.

[124] Ibid., para. 515.

[125] Ibid., para. 539.

III. Interrelationship with the law of the sea

A. Linkages between the sea and the atmosphere

46. In physical terms, the sea (oceans) and the atmosphere are closely linked in specific processes that determine the character of ocean-atmosphere interaction.[126] These include the role of ambient water vapour and clouds, the selective absorption of radiation by the ocean and the distribution of total heating in the ocean-atmosphere system.[127] Energy, momentum and matter (water, carbon, nitrogen, etc.) are exchanged between the ocean and the atmosphere.[128] A significant proportion of pollution of the marine environment from or through the atmosphere generally originates from land-based sources, that is, from anthropogenic activities on land. The atmosphere is a significant pathway for the transport of many natural and pollutant materials from the continents to the oceans.[129] Pollution emanates from either direct discharges or diffuse sources, including those released into the atmosphere by fossil-fuel and waste combustion. According to scientific findings, "[a]lthough chemical contaminants — released as a result of human activities — can now be found throughout the world's oceans, most demonstrable effects on living resources occur in coastal waters and are the result of pollution from land".[130] Human activities are also responsible for global warming, which causes the temperature of the oceans to rise, which in turn results in extreme atmospheric conditions of flood and drought[131] as well as mega typhoons (hurricanes/

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[126] R.A. Duce, J.N. Galloway and P.S. Liss, "The impacts of atmospheric deposition to the ocean on marine ecosystems and climate", *World Meteorological Organization Bulletin*, vol. 58, No. 1 (2009), pp. 61-66; E.H.G. Brévière and others, "Surface ocean-lower atmosphere study: scientific synthesis and contribution to Earth system science", *Anthropocene*, vol. 12 (2015), pp. 54-68; Joint Group of Experts on the Scientific Aspects of Marine Environmental Protection, *The Atmospheric Input of Chemicals to the Ocean*, Reports and Studies No. 84, GAW Report No. 203 (2012), available from www.wmo.int/pages/prog/arep/wwrp/new/documents/Final_GAW_203_WEB.pdf (accessed 20 February 2017). The Special Rapporteur is grateful to Ms. Oksana Tarasova, Chief, and Ms. Silvina Carou, Scientific Officer, Atmospheric Environment Research Division, WMO, for the supply of the relevant scientific information.

[127] P.J. Webster, "The role of hydrological processes in ocean-atmosphere interactions", *Reviews of Geophysics*, vol. 32, No. 4 (1994), pp. 427-476; See also E.B. Kraus and J.A. Businger, *Atmosphere-Ocean Interaction*, 2nd ed. (Oxford, Oxford University Press, 1994); and W.K.M. Lau and D.E. Waliser, *Intraseasonal variability in the atmosphere-ocean climate system* (Berlin-Heidelberg, Springer, 2012). The Special Rapporteur is grateful to Ms. Zhou You, Juris Master, Peking University (graduate of its Science Department), for supplying the relevant scientific information on the linkages between the sea and the atmosphere.

[128] See T. Stocker, *Introduction to Climate Modelling* (Berlin-Heidelberg, Springer, 2011), pp. 137-150, stating that "[m]ost of the movements in the ocean, particularly the large-scale flow, are caused by these exchange fluxes" (ibid., p. 137).

[129] R.A. Duce and others, "The atmospheric input of trace species to the world ocean", *Global Biogeochemical Cycles*, vol. 5, No. 3 (1991), pp. 193-259; T. Jickells and C.M. Moore, "The importance of atmospheric deposition for ocean productivity", *Annual Review of Ecology, Evolution, and Systematics*, vol. 46 (2015), pp. 481-501.

[130] D.F. Boesch and others, *Marine pollution in the United States* (Arlington, Pew Oceans Commission, 2001); J.M. Prospero, "The atmospheric transport of particles to the ocean", *Particle Flux in the Ocean*, V. Ittekkot and others, eds., SCOPE Report, vol. 57 (San Francisco, John Wiley and Sons, 1996), pp. 19-52; S. Cornell, A. Randell and T. Jickells, "Atmospheric inputs of dissolved organic nitrogen to the oceans", *Nature*, vol. 376 (1995), pp. 24-246; R.A. Duce and others, "Impacts of atmospheric anthropogenic nitrogen on the open ocean", *Science*, vol. 320 (2008), pp. 893-897.

[131] According to a scientific study, "human-induced increases in greenhouse gases have contributed to the observed intensification of heavy precipitation events found over approximately two-thirds of data-covered parts of Northern Hemisphere land areas" (S.K. Min, and others, "Human contribution to more-intense precipitation extremes", *Nature*, vol. 470 (2011), pp. 378-381). Many scientific analyses suggest there is a risk of drought in the twenty-first century and severe

cyclones).[132] El Niño phenomena, resulting from unstable interactions between the tropical Pacific Ocean and the atmosphere,[133] are among the prominent features of climate variability with a global climatic impact. It has been suggested that: "Such a massive reorganization of atmospheric convection … [has] severely disrupted global weather patterns, affecting ecosystems, agriculture, tropical cyclones, drought, bushfires, floods and other extreme weather events worldwide."[134]

47. Of various human activities, greenhouse gas emissions from ships have been increasing in recent years at a high rate, and have contributed to global warming and climate change. The 2000 study by the International Maritime Organization (IMO) on greenhouse gas emissions classified such emissions from ships into four categories, namely: emissions of exhaust gases; emissions of refrigerants; cargo emissions; and other emissions from fire-fighting and other equipment.[135] Not only carbon dioxide (CO_2) emissions but also sulphur oxides (SO_x) and nitrogen oxides (NO_x) from shipping are noted.[136] Research indicates that excessive greenhouse gas emissions from ships change the composition of the atmosphere and climate, and cause a negative impact on the marine environment and human health.[137]

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and widespread droughts during the next 30 to 90 years over many land areas, resulting from either decreased precipitation and/or increased evaporation (see A. Dai, "Increasing drought under global warming in observations and models", *Nature Climate Change*, vol. 3 (2013), pp. 52-58; and J. Sheffield, E.F. Wood, and M.L. Roderick, "Little change in global drought over the past 60 years", *Nature*, vol. 491 (2012), pp. 435-438).

[132] "A large increase was seen in the number and proportion of hurricanes reaching categories 4 and 5. The largest increase occurred in the North Pacific, Indian, and Southwest Pacific Oceans, and the smallest percentage increase occurred in the North Atlantic Ocean. These increases have taken place while the number of cyclones and cyclone days has decreased in all basins except the North Atlantic during the past decade" (see P.J. Webster and others, "Changes in tropical cyclone number, duration, and intensity in a warming environment", *Science*, vol. 309, No. 5742 (2005), pp. 1844-1846). "[F]or some types of extreme — notably heatwaves, but also precipitation extremes — there is now strong evidence linking specific events or an increase in their numbers to the human influence on climate. For other types of extreme, such as storms, the available evidence is less conclusive, but based on observed trends and basic physical concepts it is nevertheless plausible to expect an increase" (see D. Coumou and S. Rahmstorf, "A decade of weather extremes", *Nature Climate Change*, vol. 2, No. 7 (2012), pp. 491-496).

[133] A.V. Fedorov and S.G. Philander, "Is El Niño changing?", *Science*, vol. 288 (5473) (2000), pp. 1997-2002.

[134] W. Cai and others, "Increasing frequency of extreme El Niño events due to greenhouse warming", *Nature Climate Change*, vol. 4 (2014), pp. 111-116.

[135] Ø. Buhaug and others, *Second IMO GHG Study 2009* (London, IMO, 2009), p. 23. See also T.W.P. Smith and others, *Third IMO GHG Study 2014* (London, IMO, 2014), table 1.

[136] M. Righi, J. Hendricks and R. Sausen, "The global impact of the transport sectors on atmospheric aerosol in 2030 — Part 1: land transport and shipping", *Atmospheric Chemistry and Physics*, vol. 15 (2015), pp. 633-651.

[137] Most of the greenhouse gas emissions from ships are emitted in or transported to the marine boundary layer where they affect atmospheric composition. See, e.g., V. Eyring and others, "Transport impacts on atmosphere and climate: shipping", *Atmospheric Environment*, vol. 44, No. 37 (2010), pp. 4735, 4744-4745 and 4752-4753. Greenhouse gas emissions from ships have a negative impact on the marine environment. The Fifth Assessment Report of the Intergovernmental Panel on Climate Change asserted that greenhouse gas emissions have led to global ocean warming, the rise of ocean temperatures and ocean acidification. Intergovernmental Panel on Climate Change, "Climate change 2014 synthesis report: summary for policymakers", available from www.ipcc.ch/pdf/assessment-report/ar5/syr/AR5_SYR_FINAL_SPM.pdf (accessed 20 February 2017); D.E.J. Currie and K. Wowk, "Climate change and CO_2 in the oceans and global oceans governance", *Carbon and Climate Law Review*, vol. 3, No. 4 (2009), pp. 387 and 389; C. Schofield, "Shifting limits? Sea level rise and options to secure maritime jurisdictional claims", *Carbon and Climate Law Review*, vol. 3, No. 4 (2009), p. 12; S.R. Cooley and J.T. Mathis, "Addressing ocean acidification as part of sustainable ocean development", *Ocean Yearbook*, vol. 27, No. 1 (2013), pp. 29-47.

48. One of the most profound impacts of atmospheric degradation on the sea is the rise in sea level caused by global warming. The Fifth Assessment Report of the Intergovernmental Panel on Climate Change estimates that the global mean sea-level rise is likely to be between 26 cm and 98 cm by the year 2100.[138] While exact absolute figures and rates of change still remain uncertain, the report states that it is virtually certain that the sea level will continue to rise during the 21st century, and for centuries beyond — even if the concentrations of greenhouse gas emissions are stabilized. Moreover, the rise in sea level is likely to exhibit "a strong regional pattern, with some places experiencing significant deviations of local and regional sea level change from the global mean change".[139] That degree of change in sea level may pose a potentially serious, maybe even disastrous, threat to many coastal States, especially those with large, heavily populated and low-lying coastal areas, as well as to small, low-lying island States, which will be discussed later in the present report.

49. The General Assembly has continued to emphasize the urgency of addressing the effects of atmospheric degradation, such as increases in global temperatures, sea-level rise, ocean acidification and the impact of other climate changes that are seriously affecting coastal areas and low-lying coastal countries, including many least developed countries and small island developing States, and threatening the survival of many societies.[140] In 2015, the first Global Integrated Marine Assessment (first World Ocean Assessment) was completed as a comprehensive, in-depth study of the substances polluting the oceans from land-based sources through the atmosphere.[141] The summary of the report was approved by the General Assembly in its resolution 70/235 of 23 December 2015. General Assembly resolution 71/257 of 23 December 2016 has confirmed the effect of climate change on oceans.[142]

B. Legal relationship between the law of the sea and the law on the protection of the atmosphere***

1. United Nations Convention on the Law of the Sea and other instruments

50. When the United Nations Convention on the Law of the Sea was adopted in 1982, it aimed to address all issues relating to the law of the sea, including the protection of the marine environment from atmospheric pollution and atmospheric degradation. To that end, the Convention defines the "pollution of the marine environment" in article 1, paragraph 1 (4), and regulates all airborne sources of marine pollution, including atmospheric pollution from land-based sources and vessels, through articles 192, 194, 207, 211 and 212 of Part XII of the Convention. Although climate change was not on the international environmental agenda when

*** The Special Rapporteur is particularly grateful to Yubing Shi, Professor, Xiamen University, for drafting the relevant parts of the present report concerning the law of the sea and related judicial decisions.

[138] Intergovernmental Panel on Climate Change, *Climate Change 2013: The Physical Science Basis. Working Group I Contribution of to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* (Cambridge, United Kingdom, Cambridge University Press, 2013), p. 1180.

[139] Ibid., p. 1140.

[140] See "Oceans and the law of the sea: report of the Secretary-General" (A/71/74/Add.1), chap. VIII ("Oceans and climate change and ocean acidification"), paras. 115-122.

[141] United Nations Division for Ocean Affairs and the Law of the Sea, "First Global Integrated Marine Assessment (first World Ocean Assessment)", available from www.un.org/depts/los/global_reporting/WOA_RegProcess.htm (accessed 20 February 2017) (see, in particular, chap. 20 on "Coastal, riverine and atmospheric inputs from land").

[142] See paras. 185-196.

the Convention was negotiated,[143] the relevant obligations of States can be inferred from it, and these obligations interact with the international climate change regime and the IMO regime in a mutually supportive manner.

51. Article 1, paragraph 1 (4), of the Convention provides that: "'pollution of the marine environment' means the introduction by man, directly or indirectly, of substances or energy into the marine environment, including estuaries, which results or is likely to result in such deleterious effects as harm to living resources and marine life, hazards to human health, hindrance to marine activities, including fishing and other legitimate uses of the sea, impairment of quality for use of sea water and reduction of amenities." Based on this definition, the release of toxic, harmful or noxious substances (including atmospheric pollutants) from land-based sources cause marine pollution and harm the marine environment, and this has been confirmed by articles 194, paragraph 3, and 207 of the Convention. Similarly, atmospheric pollution from vessels also harms the marine environment, and this has been regulated by articles 194, paragraph 3, 211 and 212 of the Convention. While SO_x and NO_x have been generally accepted as air pollutants,[144] there are debates and differences in national legislation on whether greenhouse gas emissions from ships, in particular CO_2 emissions from ships, are a type of pollution.[145] Nonetheless, it is well known that greenhouse gas emissions from ships, as a main factor contributing to climate change, cause marine pollution and harm the marine environment. The definition provided in article 1, paragraph 1 (4), of the Convention is significant in that it provides the criteria for judging whether a type of "substance or energy" is marine pollution and this may trigger the application of many pollution-related treaties under the auspices of the IMO and other international fora to the issue of that particular "substance or energy".[146]

52. Part XII of the Convention covers atmospheric pollution from land-based sources. While article 192 provides a general obligation for States to protect and preserve the marine environment, articles 194, paragraph 3 (*a*), and 207 specify requirements on pollution of land-based sources. Article 194, paragraph 3 (*a*), reads that:

> The measures taken pursuant to this Part shall deal with all sources of pollution of the marine environment. These measures shall include, *inter alia*, those designed to minimize to the fullest possible extent:
>
> (a) the release of toxic, harmful or noxious substances, especially those which are persistent, from land-based sources, from or through the atmosphere or by dumping.

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[143] A. Boyle, "Law of the sea perspectives on climate change", in *The 1982 Law of the Sea Convention at 30: Successes, Challenges and New Agendas*, D. Freestone, ed. (Leiden, Martinus Nijhoff, 2013), pp. 157-164; See, in general, R.S. Abate, ed., *Climate Change Impacts on Ocean and Coastal Law: U.S. and International Perspectives* (Oxford, Oxford University Press, 2015).

[144] For example, at the fifty-eighth session of the Marine Environment Protection Committee in 2008, IMO adopted annex VI, as amended, to the International Convention for the prevention of pollution from ships, which regulates, inter alia, emissions of SO_x and NO_x. The Convention now has six annexes, namely, annex I on regulations for the prevention of pollution by oil (entry into force on 2 October 1983); annex II on regulations for the control of pollution by noxious liquid substances in bulk (entry into force on 6 April 1987); annex III on regulations for the prevention of pollution by harmful substances carried by sea in packaged form (entry into force on 1 July 1992); annex IV on regulations for the prevention of pollution by sewage from ships (entry into force on 27 September 2003); annex V on regulations for the prevention of pollution by garbage from ships (entry into force 31 December 1988); and annex VI on regulations for the prevention of air pollution from ships (entry into force 19 May 2005).

[145] Y. Shi, "Are greenhouse gas emissions from international shipping a type of marine pollution?", *Marine Pollution Bulletin*, vol. 113, Nos. 1-2 (2016), pp. 187-192.

[146] Ibid., p. 187.

Through the above provisions, the Convention requires States to take all necessary measures to prevent, reduce and control land-based atmospheric pollution. The source of this atmospheric pollution also covers greenhouse gas emissions due to their deleterious effects on the marine environment.[147] In this way, the Convention imposes an obligation of due diligence on States,[148] and serves as a framework treaty for States to reduce land-based atmospheric pollution and greenhouse gas emissions. This regulation underpins the subsequent global and regional regulatory initiatives including the Global Programme of Action for the Protection of the Marine Environment from Land-based Activities,[149] the United Nations Framework Convention on Climate Change and its Kyoto Protocol[150] and the Paris Agreement.[151]

53. Article 207, paragraph 4, of the United Nations Convention on the Law of the Sea highlights that global and regional rules, standards and recommended practices and procedures to prevent, reduce and control pollution from land-based sources should be established through competent organizations or diplomatic conference. The plural term "competent international organizations" in this provision indicates that IMO is not the sole organization exclusively dealing with land-based sources of marine pollution.[152] In this way, relevant treaties adopted under the auspices of IMO and other international forums have thus been incorporated into the Convention by reference. Meanwhile, this provision underscores that the establishment of global and regional rules, standards and recommended practices and procedures should take into account characteristic regional features, the economic capacity of developing States and their need for economic development. This provision reflects article 194, paragraph 1, that requires States to take measures "in accordance with their capabilities",[153] and underpins the eventual formation of the "common but differentiated responsibilities and respective capabilities principle" in 1992.

54. The regulation on atmospheric pollution from vessels under the Convention incorporates "mutual supportiveness" for dealing with the interrelationship between the Convention and IMO. This has been achieved by two approaches, namely the so-called rules of reference, and general obligations being supplemented by IMO instruments.

55. Regarding the rules of reference, parties to the Convention are required to comply with rules and standards that are stipulated in other international

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[147] Boyle, "Law of the sea perspectives on climate change" (see footnote 143 above), p. 158; See also Intergovernmental Panel on Climate Change, *Climate Change 2013 ...* (footnote 138 above), pp. 4-5; D.E.J. Currie and K. Wowk, "Climate change and CO_2 in the oceans and global oceans governance", *Carbon and Climate Law Review*, vol. 3, No. 4 (2009), pp. 387 and 389.

[148] Boyle, "Law of the sea perspectives on climate change" (see footnote 143 above), p. 159.

[149] The Global Programme of Action is administered by a Coordinating Unit hosted by the United Nations Environment Programme. The Global Programme of Action was designed around the relevant provisions of chaps. 17, 33 and 34 of Agenda 21, the Rio Declaration on Environment and Development, and the Montreal Guidelines for the Protection of the Marine Environment against Pollution from Land-based Sources. The Global Programme of Action recommends actions at the international, regional and national levels to address the issue of marine pollution from land-based activities.

[150] Kyoto Protocol to the United Nations Framework Convention on Climate Change (Kyoto, 11 December 1997).

[151] Paris Agreement under the United Nations Framework Convention on Climate Change (Paris, 12 December 2015), document FCCC/CP/2015/L.9/Rev.1, annex.

[152] M.H. Nordquist and others, eds., *United Nations Convention on the Law of the Sea 1982: A Commentary* (Dordrecht, Martinus Nijhoff, 1991), vol. IV, p. 133, para. 207.7(*d*).

[153] The origin of this expression can be traced back to principle 7 of the Declaration of the United Nations Conference on the Human Environment (Stockholm Declaration), which incorporated the words "all possible steps". See Nordquist and others, *United Nations Convention on the Law of the Sea ...* (footnote above), p. 64, para. 194.10(*b*).

instruments adopted under the auspices of IMO, even when these parties to the Convention are not parties to the IMO instruments.[154] Two rules of reference under the Convention may be relevant for the regulations on atmospheric pollution from vessels. Article 211 ("Pollution from vessels"), paragraph 2, of the Convention reads: "States shall adopt laws and regulations for the prevention, reduction and control of pollution of the marine environment from vessels flying their flag or of their registry. Such laws and regulations shall at least have the same effect as that of generally accepted international rules and standards established through the competent international organization or general diplomatic conference." The "competent international organization" in this provision refers to IMO. Indeed, this provision imposes an obligation on all flag States that their national laws and regulations for the prevention, reduction and control of vessel-sourced atmospheric pollution should be consistent with or stricter than generally accepted international rules and standards established by IMO.[155] In this way, this provision is linked to relevant IMO instruments on vessel-sourced atmospheric pollution in which relevant rules and standards are qualified as "generally accepted" for the purpose of article 211, paragraph 2.[156] An example of such an instrument is annex VI ("Regulations for the prevention of air pollution from ships") to the International Convention for the prevention of pollution from ships. Article 212, paragraph 1, of the United Nations Convention on the Law of the Sea ("Pollution from or through the atmosphere") provides that: "States shall adopt laws and regulations to prevent, reduce and control pollution of the marine environment from or through the atmosphere, applicable to the air space under their sovereignty and to vessels flying their flag or vessels or aircraft of their registry, taking into account internationally agreed rules, standards and recommended practices and procedures and the safety of air navigation." This provision encourages flag States to enforce internationally agreed IMO rules, standards and recommended practices and procedures so as to satisfy their obligations under the Convention. Compared with the expression "generally accepted", "generally agreed" is a weaker term. However, the United Nations Division for Ocean Affairs and the Law of the Sea has treated annex VI of the International Convention for the prevention of pollution from ships as a complementary instrument that needs to be implemented by States to fulfil their obligations under article 212.[157]

56. Some general obligations of States on vessel-sourced atmospheric pollution provided by the United Nations Convention on the Law of the Sea are supplemented by concrete regulations under the auspices of IMO. For instance, article 194, paragraph 3 (*b*), of the Convention mentions atmospheric pollution from vessels in a general manner. It reads as follows:

> The measures taken pursuant to this Part shall deal with all sources of pollution of the marine environment. These measures shall include, *inter alia*, those designed to minimize to the fullest possible extent:

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[154] See, e.g., J. Harrison, "Recent developments and continuing challenges in the regulation of greenhouse gas emissions from international shipping", University of Edinburgh School of Law, Research Paper Series No. 2012/12, available from: https://ssrn.com/abstract=2037038 (accessed 20 February), p. 20.

[155] Nordquist and others, *United Nations Convention on the Law of the Sea* ... (see footnote 152), p. 203, para. 211.15(*f*).

[156] See, e.g., A.E. Boyle, "Marine pollution under the law of the sea convention", *American Journal of International Law*, vol. 79 (1985), p. 357; and R. Van Reenan, "Rules of references in the new Convention on the Law of the Sea, in particular in connection with the pollution of the sea by oil from tankers", *Netherlands Yearbook of International Law*, vol. 12 (1981), p. 3.

[157] Division for Ocean Affairs and the Law of the Sea, *The Law of the Sea: Obligations of States Parties under the United Nations Convention on the Law of the Sea and Complementary Instruments* (United Nations publication, Sales No. E.04.V.5), p. 52.

...

(b) pollution from vessels, in particular measures for preventing accidents and dealing with emergencies, ensuring the safety of operations at sea, preventing intentional and unintentional discharges, and regulating the design, construction, equipment, operation and manning of vessels.

The standard of conduct set out in this provision is very general. It covers various sources of air pollution from vessels, including those resulting from the normal operation of vessels and also from marine casualties following collisions and groundings. The concrete obligations can be found in relevant IMO instruments such as the International Convention for the prevention of pollution from ships, the Convention on the international regulations for preventing collisions at sea, and the International Convention for the Safety of Life at Sea. Similarly, for the purpose of preventing, reducing and controlling vessel-sourced marine pollution, article 211, paragraph 6, allows coastal States to establish special areas in their exclusive economic zone after appropriate consultations through the competent international organization. To facilitate the enforcement of this provision, in 2005 IMO adopted resolution A.982(24) on revised guidelines for the identification and designation of particularly sensitive sea areas, which provide guidelines on designating such areas.

57. A commentary to article 194 is illuminating in describing the (limited) interrelationship between the law of the sea and the law relating to the atmosphere:

> The word "atmosphere" appears for the first time in this Convention in paragraph 3 (a), and the question arises of the extent to which the atmosphere can be considered as part of the marine environment. Several provisions of the Convention refer to the atmosphere in terms of the superjacent airspace or some cognate expression ... This is sufficient to indicate that the atmosphere itself can be regarded as a component of the marine environment, at least to the extent that there is a direct link between the atmosphere in superjacent airspace and the natural qualities of the subjacent ocean space. Article 194, paragraph 3 (a), together with articles 212 and 222, thus also constitutes a link with between the law relating to the marine environment and the law relating to the atmosphere as such, whether or not over the oceans. At the same time, the provisions of this Convention, and especially those found in Part XII, do not themselves prejudge the question whether any part of the atmosphere is itself part of the marine environment.[158]

The scope of application of article 212 is the territorial airspace "under the sovereignty" of a given State, and it does not relate to airspace above an exclusive economic zone, not to mention common airspace above the high seas. Article 212 does not address directly the problem of pollution of the atmosphere itself, or any form of pollution other than that defined in article 1, paragraph 4, namely pollution of the marine environment.[159] Article 222 ("Enforcement with respect to pollution from or through the atmosphere") is the enforcement counterpart of article 212, the standard-setting article for the prevention, reduction and control of pollution of the marine environment from or through the atmosphere. Article 222 may to some extent overlap article 223 on enforcement with regard to the pollution of the marine environment from land-based sources, since in fact most of the pollution in the atmosphere derives from sources on land.[160]

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[158] Nordquist and others, *United Nations Convention on the Law of the Sea* ... (see footnote 152), p. 67, para. 194.10(*k*).

[159] Ibid., pp. 212-213, para. 212.9(*d*).

[160] Ibid., pp. 315-319.

58. Other relevant instruments include the Convention for the protection of the marine environment of the North-East Atlantic (art. 1 (*e*)), the Convention on the protection of the marine environment of the Baltic Sea Area (art. 2, para. 2), the Protocol for the protection of the Mediterranean Sea against pollution from land-based sources (art. 4, para. 1 (*b*)),[161] the Protocol for the protection of South-East Pacific against pollution from land-based sources (art. II (*c*)) and the Protocol to the Kuwait Regional Convention for the Protection of the Marine Environment Against Pollution from Land-Based Sources (art. III), dealing with pollution through the atmosphere as a land-based source. The revised Protocol on the Protection of the Marine Environment of the Black Sea from Land-based Sources and Activities[162] regulates pollution transported through the atmosphere in its annex III. In 1991, the parties to the Protocol for the protection of the Mediterranean Sea against pollution from land-based sources adopted a new annex (IV) to the Protocol on land-based sources of pollution transported through the atmosphere.[163] Prior to the United Nations Convention on the Law of the Sea, the only international instrument of significance was the Treaty banning nuclear weapon tests in the atmosphere, in outer space and under water.

59. Through the rules of reference under the United Nations Convention on the Law of the Sea, annex VI of the International Convention for the prevention of pollution from ships can be treated as the "internationally agreed rules [and] standards" for the purpose of reducing vessel-sourced air pollution such as SO_x and NO_x.[164] Regarding greenhouse gas emissions from ships, the interaction between IMO and the United Nations Convention on the Law of the Sea becomes more complicated due to their interrelationship with the international climate change regime. It seems that the interrelationship among IMO, the United Nations Convention on the Law of the Sea and the United Nations Framework Convention on Climate Change is somehow conflicted due to the controversial application of the principle of common but differentiated responsibilities and respective capabilities to the IMO regulation of greenhouse gas emissions from international shipping. However, in essence this relationship is still "mutually supportive", as the so-called conflict can be addressed through interpretation in good faith.

60. The entire negotiation process regarding greenhouse gas emissions reduction within IMO has been shaped and bedevilled by tension between developed and developing States. The conflict centres on the question of whether the principle of common but differentiated responsibilities and respective capabilities or the principle of no more favourable treatment should be applied to the regulation of greenhouse gas emissions from international shipping.[165] While the former principle

[161] The original Protocol was modified by amendments adopted on 7 March 1996 by the Conference of Plenipotentiaries on the Protocol for the Protection of the Mediterranean Sea against Pollution from Land-based Sources, held in Syracuse on 6 and 7 March 1996 (UNEP(OCA)/MED IG.7/4). The amended Protocol, recorded as "Protocol for the Protection of the Mediterranean Sea against Pollution from Land-Based Sources and Activities", entered into force on 11 May 2008.

[162] The Protocol is not yet in force.

[163] D. Bodansky and others, "Oceans", in *Yearbook of International Environmental Law*, vol. 1, G. Handl, ed. (London, Graham and Trotman, 1991), pp. 111-137.

[164] United Nations Convention on the Law of the Sea, art. 212, para. 1. Based on the current literature on the criteria of "generally accepted", it is less likely, however, that annex VI can be regarded as constituting generally accepted international rules and standards as stipulated in art. 211, para. 2, of the Convention. See, e.g., Harrison, "Recent developments and continuing challenges ..." (footnote 154 above), pp. 21-22.

[165] The principle of common but differentiated responsibilities and respective capabilities requires developed and developing States to address environmental issues but underscores that the former should take primary responsibility. The premise for this arrangement is the different levels of responsibility developing and developed States have for the causation of environmental problems. The no more favourable treatment principle refers to "port States enforcing applicable

runs through the United Nations Framework Convention on Climate Change, its Kyoto Protocol and the Paris Agreement, the latter principle is incorporated into all IMO regulations, including the International Convention for the prevention of pollution from ships. Thus, there are strongly held different views regarding which principle should be applied to the regulatory regime to reduce greenhouse gas emissions from international shipping. Nonetheless, it is possible that this tension can be addressed provided that an interpretation based on the Vienna Convention is made in a mutually supportive manner. Generally speaking, the mandate of IMO as regards greenhouse gas emissions comes from both the United Nations Convention on the Law of the Sea and the International Convention for the prevention of pollution from ships as well as the Kyoto Protocol to the United Nations Framework Convention on Climate Change,[166] which indicates that both principles mentioned above can be applied to the issue under discussion and their incorporation into the regulation can be achieved through a broader and flexible interpretation of the principle of common but differentiated responsibilities and respective capabilities.[167] To some extent, this approach has been reflected in the adoption of the 2011 amendments to annex VI of the International Convention for the prevention of pollution from ships and the ongoing discussion on market-based measures within IMO.[168]

61. As a package deal, the United Nations Convention on the Law of the Sea does not provide definitions on various types of marine pollution, and the absence of certain types of marine pollution has been supplemented by other regional treaties. For instance, the United Nations Convention on the Law of the Sea regulates pollution from land-based sources, and a definition of "land-based sources" was later provided by the Convention for the protection of the marine environment of the North-East Atlantic. Article 1 (*e*) of that Convention provides that:

> "Land-based sources" means point and diffuse sources on land from which substances or energy reach the maritime area by water, through the air, or

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standards in a uniform manner to all ships in their ports, regardless of flag"; see Y. Shi, "The challenge of reducing greenhouse gas emissions from international shipping: assessing the International Maritime Organization's regulatory response", *Yearbook of International Environmental Law*, vol. 23, No. 1 (2012), pp. 136-137.

[166] Art. 2, para. 2, of the Kyoto Protocol authorizes IMO to regulate greenhouse gas emissions from international shipping. Meanwhile, IMO receives its competence on greenhouse gas emissions from arts. 1 (*a*) and 64 of the Convention on the International Maritime Organization and arts. 211, para. 1, and 212, para. 3, of the United Nations Convention on the Law of the Sea. Y. Shi, "Greenhouse gas emissions from international shipping: the response from China's shipping industry to the regulatory initiatives of the International Maritime Organization", *International Journal of Marine and Coastal Law*, vol. 29 (2014), pp. 77-115, at pp. 82-84.

[167] Ibid., pp. 86-89.

[168] The amendments adopted in 2011 to annex VI of the International Convention for the prevention of pollution from ships (see IMO resolution MEPC.203(62) of 15 July 2011, document MEPC 62/24/Add.1, annex 19) introduced a mandatory energy efficiency design index for new ships and a ship energy efficiency management plan for all ships. Furthermore, market-based measures, as a third type of measure in addition to the technical and operational measures, had also been discussed and negotiated from 2000 to 2013 within IMO. See IMO, "Main events in IMO's work on limitation and reduction of greenhouse gas emissions from international shipping" (2011), para. 18, available from www.imo.org; Y. Shi, "Reducing greenhouse gas emissions from international shipping: is it time to consider market-based measures?", *Marine Policy*, vol. 64 (2016), pp. 123-134, at p. 125; and H. Zhang, "Towards global green shipping: the development of international regulations on reduction of GHG emissions from ships", *International Environmental Agreements: Politics, Law and Economics*, vol. 16, No. 4 (2016), pp. 561-577. At its seventieth session from 24 to 28 October 2016, the IMO Marine Environment Protection Committee agreed to cut SO_x emissions from ships, starting in 2020 (with an implementation scheme to be discussed in 2017), but postponed a decision on greenhouse gas emissions until after a further review in 2017.

directly from the coast. It includes sources associated with any deliberate disposal under the sea-bed made accessible from land by tunnel, pipeline or other means and sources associated with man-made structures placed, in the maritime area under the jurisdiction of a Contracting Party, other than for the purpose of offshore activities.

62. Thus, the relevant provisions of the United Nations Convention on the Law of the Sea and other related instruments address the atmosphere as long as it is within territorial airspace, and as long as it affects the marine environment. They do not address the atmosphere itself, nor situations where the oceans may affect the atmosphere. The interrelationship between the sea and the atmosphere covered by the United Nations Convention on the Law of the Sea is limited and unilateral (one way from the atmosphere to the oceans, but not the other way around), requiring further efforts by the international community to overcome such negative conflicts within the relevant international law. As recalled, the preamble of the Paris Agreement notes the importance of ensuring the integrity of all ecosystems, including oceans. It is therefore considered important that the law of the sea and the law relating to the atmosphere are interpreted and applied in a mutually supportive manner.

2 Judicial decisions

63. As was referred to in the second report by the Special Rapporteur,[169] Australia had asked the International Court of Justice, in its application in the *Nuclear Tests* case, "to adjudge and declare that the carrying out of atmospheric nuclear weapon tests in the South Pacific area is not consistent with obligations imposed on France by applicable rules of international law".[170] While the Court had previously indicated provisional measures on 22 June 1973, it rendered a final judgment on 20 December 1974, holding that the objective pursued by the applicants, namely the cessation of the nuclear tests, had been achieved by French declarations not to continue atmospheric tests, and therefore that the Court was not called upon to give a decision on the claims put forward by the applicants.[171] It may be noted that Australia filed this case on the grounds of protecting, not only its own legal interests, but also the interests of other States, since it considered French nuclear tests a violation of the freedom of the high seas. Its memorial stated, inter alia, that:

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[169] A/CN.4/681, para. 44.

[170] *Memorial on Jurisdiction and Admissibility submitted by the Government of Australia, I.C.J. Pleadings 1973*, para. 430.

[171] *Nuclear Tests (Australia v. France), Interim Protection, Order of 22 June 1973, I.C.J. Reports 1973*, p. 99; *Nuclear Tests (Australia v. France), Judgment, I.C.J. Reports 1974*, p. 253; *Nuclear Tests (New Zealand v. France), Interim Protection, Order of 22 June 1973, I.C.J. Reports 1973*, p. 135; *Nuclear Tests (New Zealand v. France), Judgment, I.C.J. Reports 1974*, p. 457. See, H. Thierry, "Les arrêts du 20 décembre 1974 et les relations de la France avec la Cour internationale de justice", *Annuaire français de droit international*, vol. 20 (1974), pp. 286-298; T.M. Franck, "Word made law: the decision of the ICJ in the Nuclear Test cases", *American Journal of International Law*, vol. 69 (1975), pp. 612-620; P. Lellouche, "The International Court of Justice: the nuclear tests cases: judicial silence v. atomic blasts", *Harvard International Law Journal*, vol. 16 (1975), pp. 614-637; E. McWhinney, "International law-making and the judicial process, the world court and the French Nuclear Tests case", *Syracuse Journal of International law and Commerce*, vol. 3 (1975), pp. 9-46; S. Šur, "Les affaires des essais nucléaires (Australie c. France; Nouvelle-Zélande c. France: C.I.J. — arrêts du 20 décembre 1974)", *Revue générale de droit international public*, vol. 79 (1975), pp. 972-1027; R.S.J. MacDonald and B. Hough, "The Nuclear Tests case revisited", *German Yearbook of International Law*, vol. 20 (1977), pp. 337-357. The Court stated that "the unilateral statements of the French authorities were made outside the Court, publicly and *erga omnes*", implying that France became bound towards all States (*Nuclear Tests (Australia v. France), Judgment, I.C.J. Reports 1974*, p. 253, at p. 269, para. 50).

"The sea is not static; its life systems are complex and closely interrelated. It is evident, therefore, that no one can say that pollution — especially pollution involving radioactivity — in one place cannot eventually have consequences in another. It would, indeed, be quite out of keeping with the function of the Court to protect by judicial means the interests of the international community, if it were to disregard considerations of this character."[172]

64. The 2001 decision by the International Tribunal for the Law of the Sea in the *MOX Plant case*[173] exemplifies the interrelationship between the United Nations Convention on the Law of the Sea and the relevant international law regime regarding the prevention, reduction and control of land-based atmospheric pollution. Mutual supportiveness between the Convention and the atmospheric pollution regime was one of the factors being considered by the Tribunal. In this case, Ireland requested that an arbitral tribunal be constituted under annex VII to adjudge and declare that the United Kingdom, through its MOX plant, had breached its obligations under articles 192, 193 and/or article 194 and/or article 207 and/or articles 211 and 213 of the Convention. Ireland asserted that the United Kingdom failed to take the necessary measures to prevent, reduce and control marine pollution in the Irish Sea by means of the intended discharge and/or accidental release of radioactive materials or wastes from the MOX plant.[174] The reasoning behind the submission of Ireland was that compliance with agreed standards of pollution control under relevant international law was not enough to satisfy the more general duty of due diligence, which was established under the Convention.[175] Based on this consideration, Ireland requested the Tribunal to impose certain provisional measures, such as the United Kingdom immediately suspending its authorization to the MOX plant. The Tribunal decided not to impose provisional measures as requested by Ireland but requested that the two parties cooperate forthwith. This case can also be seen as a balancing exercise by the Tribunal between continued economic development and environmental protection.[176]

65. The *Pulp Mills* case[177] before the International Court of Justice was another example addressing the interrelationship between the duty of due diligence provided under the Convention and the duty to protect the environment stipulated in other agreements. Mutual supportiveness between the Convention and other instruments was again one of the factors being considered by the Court. In this case, Argentina alleged that Uruguay had breached its obligations under the Statute of the River Uruguay[178] by authorizing one pulp mill and constructing another on the River Uruguay. Argentina asserted that Uruguay had breached international law, including the obligation to prevent pollution, a duty of diligence established under the Convention. To that end, Argentina submitted a request for provisional measures. However, that request was rejected by the Court. The Court held that Uruguay had only breached a procedural obligation rather than substantive obligations under the

[172] *Memorial on Jurisdiction and Admissibility submitted by the Government of Australia, I.C.J. Pleadings 1973*, para. 459.

[173] *The MOX Plant case (Ireland v. United Kingdom)*, provisional measures, order of 3 December, International Tribunal for the Law of the Sea, Case No. 10.

[174] *Request for provisional measures and statement of case submitted on behalf of Ireland*, 9 November 2001, available from www.itlos.org/fileadmin/itlos/documents/cases/case_no_10/request_ireland_e.pdf (accessed 20 February 2017). In its request for provisional measures, Ireland stated that "the consequences for human health and environment of an accidental atmospheric release of the high-level radioactive waste tanks at Sellafield would be far greater than the Chernobyl accident in April 1986" (para. 11).

[175] Boyle, "Law of the sea perspectives on climate change" (see footnote 143 above), p. 162.

[176] Ibid.

[177] *Pulp Mills on the River Uruguay (Argentina v. Uruguay), Judgment, I.C.J. Reports 2010*, p. 14.

[178] Statute of the River Uruguay, United Nations, *Treaty Series*, vol. 1295, p. 340.

Statute, for the protection of the environment.[179] In this way, the interrelationship of mutual supportiveness between the duty of due diligence under the Convention and substantial obligations provided in other agreements has been identified by the Court.

C. Sea-level rise and its impact

66. As described in paragraph 48 above, sea-level rise as a result of global warming was predicted by the Intergovernmental Panel on Climate Change as the most likely scenario. One of the well-known consequences of sea-level rise is the significant global regression of coastlines, leading to changes of baselines to measure territorial waters and other maritime zones including archipelagic lines, as the baselines are intended to be "ambulatory".[180] As sea levels rise, the low water line along the coast, which marks the "normal baseline" for the purposes of article 5 of the Convention, will usually move inland and some key geographical features used as base points may be inundated and lost. Some authors, however, hold the view that "a substantial rise in sea level, whatever the cause, should not entail the loss of States' ocean space and their rights over maritime resources, already recognized by the 1982 Convention".[181] The International Law Association Committee on Baselines under the International Law of the Sea has suggested that there may be two options: first, a new rule freezing the existing baselines in their current positions, using the "large-scale charts officially recognised by the coastal State"; or, second, a new rule freezing the existing defined outer limits of maritime zones measured from the baselines established in accordance with the Convention.[182] These options do appear to be contrary to the established rule of international law, since the fundamental change of circumstances cannot be applied to boundaries.[183] Nonetheless, there is a strong need for the international community to consider the problem *de lege ferenda* to overcome the difficulty facing the States concerned with baseline issues.[184]

67. Another set of problems caused by sea-level rise, which is of direct relevance to the protection of the atmosphere, relates to the issues of forced migration and human rights. Sea-level rise is threatening partial or complete inundation of State territory, or depopulation thereof, in particular of small island and low-lying States,

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[179] The Court held that there was "no conclusive evidence in the record to show that Uruguay has not acted with the requisite degree of due diligence or that the discharges of effluent from the Orion (Botnia) mill have had deleterious effects or caused harm to living resources or to the quality of the water or the ecological balance of the river since it started its operations in November 2007" (*Pulp Mills on the River Uruguay (Argentina v. Uruguay), Judgment, I.C.J. Reports 2010*, p. 14, at p. 101, para. 265).

[180] A.H.A. Soons, "The effects of a rising sea level on maritime limits and boundaries", *Netherlands International Law Review*, vol. 37, No. 2 (1990) pp. 207-232; M. Hayashi, "Sea level rise and the law of the sea: future options", in *The World Ocean in Globalisation: Climate Change, Sustainable Fisheries, Biodiversity, Shipping, Regional Issues*, D. Vidas and P.J. Schei, eds. (Leiden, Martinus Nijhoff, 2011), p. 188 et seq. The VCLT provides in article 62 (2) that: "A fundamental change of circumstances may not be invoked as a ground for terminating or withdrawing from a treaty: (a) if the treaty establishes a boundary."

[181] J.L. Jesus, "Rocks, new-born islands, sea level rise and maritime space", in *Negotiating For Peace* — Liber Amicorum *Tono Eitel*, J. Frowein and others, eds. (Berlin/Heidelberg, Springer, 2003), pp. 599 and 602.

[182] See International Law Association, *Report of the Seventy-Fifth Conference held in Sofia, August 2012* (London, 2012), pp. 385-428.

[183] The International Court of Justice also confirmed this exclusion of a boundary from the application of fundamental change of circumstances in *Aegean Sea Continental, Judgment, I.C.J. Reports 1978*, p. 3, at pp. 35-36, para. 85.

[184] International Law Association, *Johannesburg Conference (2016): International Law and Sea Level Rise* (interim report), pp. 13-18.

and the relevant implications under international law are enormous, requiring serious, in-depth study of the issues. The combined and cumulative impacts of relative sea-level rise and other effects of climate change present a range of direct and indirect negative consequences for human lives and living conditions in coastal and low-lying areas.[185] These questions of human rights and migration should, however, be better considered in the context of human rights law rather than the law of the sea, and will therefore be discussed in section IV.

68. In view of the above, the following draft guideline is proposed:

Draft guideline 11: Interrelationship of law on the protection of the atmosphere with the law of the sea

1. States should take appropriate measures in the field of the law of the sea, taking into account the relevant provisions of the United Nations Convention on the Law of the Sea and related international instruments, to protect the atmosphere from atmospheric pollution and atmospheric degradation and to deal with questions of maritime pollution from or through the atmosphere. In order to avoid any conflict, States should ensure that development, interpretation and application of relevant rules of international law conform to the principle of mutual supportiveness.

2. States and competent international organizations should consider the situations of small island States and low-lying States with regard to the baselines for the delimitation of their maritime zones under the law of the sea.

IV. Interrelationship with international human rights law

69. International law related to the protection of the atmosphere can only coordinate appropriately with international human rights law to the extent that elements of the law of protection of the atmosphere are considered "anthropocentric" (human-centric) rather than eco-centric in character,[186] that is, that environmental protection is primarily considered as a means of protecting humans rather than an end in itself.[187] Thus, for instance, the European Court of Human Rights, in a case concerning the protection of marshland, stated that: "Neither article 8 nor any of the other Articles of the Convention are specifically designed to provide general protection of the environment as such; other international instruments ... are more pertinent in dealing with this particular aspect."[188]

In order for human rights instruments to contribute to the protection of the environment in general and to the protection of the atmosphere in particular, the

[185] Ibid., pp. 18-28. See also Intergovernmental Panel on Climate Change, "Climate change 2014 synthesis report ..." (footnote 137 above).

[186] See C.D. Stone, "Ethics and international environmental law", in *The Oxford Handbook of International Environmental Law*, D. Bodansky, J. Brunée and E. Hey, eds. (Oxford, Oxford University Press, 2007), pp. 291-301. The Special Rapporteur is particularly grateful to Masayuki Hiromi, Sophia University, for supplying relevant material and drafting parts of the present report on human rights law.

[187] Boyle, "Relationship between international environmental law ..." (see footnote 36 above), p. 141.

[188] *Kyrtatos v. Greece*, no. 41666/98, ECHR 2003-VI, para. 52. The Court went on to say that "even assuming that the environment has been severely damaged by the urban development of the area, the applicants have not brought forward any convincing arguments showing that the alleged damage to the birds and other protected species living in the swamp was of such a nature as to directly affect their own rights under Article 8 § 1 of the Convention" (ibid., para. 53).

direct link between atmospheric pollution or degradation and an impairment of a protected human right must be established.[189] In this sense, international human rights law can be pertinent only in the context of atmospheric pollution and atmospheric degradation affecting the human and natural environments, since they are protected ultimately for humans. Thus, international human rights law does not necessarily overlap with international environmental law, but may do so to some extent.[190]

A. Treaties and other instruments

70. With regard to human rights references in environmental texts, the Declaration of the United Nations Conference on the Human Environment (Stockholm Declaration)[191] recognized for the first time the interrelationship between international environmental law and international human rights law: its principle 1 focused on the rights granted to individuals rather than the obligations imposed on States, providing that: "Man has the fundamental right to freedom, equality and adequate conditions of life in an environment of a quality that permits a life of dignity and well-being."[192] The Rio Declaration on Environment and Development[193] of 1992 also outlined in its principle 1 that "[h]uman beings are at the centre of concerns for sustainable development", and that "[t]hey are entitled to a healthy and productive life in harmony with nature". Although the second clause did not refer specifically to the term "human right",[194] principle 1 has helped the development of international human rights law to incorporate concerns for sustainability and environmental protection. While these declarations are not legally binding instruments, they provided the basis for subsequent development of a human right to a healthy environment.[195]

71. It is important to note that international law relating to the protection of the atmosphere does significantly reflect an anthropocentric approach so that human rights law does have a great potential to contribute to this field, since, after all, clean air is indispensable for human survival. In the context of atmospheric pollution, the Convention on Long-range Transboundary Air Pollution recognizes that air pollution has "deleterious effects of such a nature as to endanger human health" (article 1) and obliges the parties "to protect man and his environment against air pollution" (article 2). Likewise, for atmospheric degradation, the Vienna Convention for the Protection of the Ozone Layer contains a provision whereby the parties are required to take appropriate measures "to protect human health" (article 2), and the United Nations Framework Convention on Climate Change deals

[189] P.-M. Dupuy and J.E. Viñuales, *International Environmental Law* (Cambridge, United Kingdom, Cambridge University Press, 2015), pp. 308-309 and 319.

[190] Certain environmental norms, such as conventions concerning the protection of biodiversity, "reflect a greater environmental consciousness and suggest that the protection of the environment is often recognised on its own terms, and not simply a means of protecting humans" (Sands and Peel, *Principles of International Environmental Law* (see footnote 106 above), p. 776). In such an area, there is no room for international human rights norms to be taken into consideration.

[191] See *Report of the United Nations Conference of the Human Environment, Stockholm 5-16 June 1971* (United Nations publication, Sales No. E.73.II.A.14), chap. I.

[192] L.B. Sohn, "The Stockholm Declaration on the Human Environment", *Harvard International Law Journal*, vol. 14 (1973), pp. 423-515, at pp. 451-452.

[193] *Report of the United Nations Conference on Environment and Development* ... (see footnote 41 above), resolution 1, annex I.

[194] D. Shelton, "What happened in Rio to human rights?", *Yearbook of International Environmental Law*, vol. 3 (1992), pp. 75-93, at p. 75.

[195] F. Francioni, "Principle 1: human beings and the environment", in *The Rio Declaration on Environment and Development: A Commentary*, J.E. Viñuales, ed. (Oxford, Oxford University Press, 2015), pp. 93-106, at pp. 97-98.

with the adverse effects of climate change including significant deleterious effects "on human health and welfare" (article 1). As noted in a recent analytical study on the relationship between human rights and the environment undertaken by the Office of the High Commissioner for Human Rights,[196] environmental degradation including air pollution, climate change and ozone layer depletion "has the potential to affect the realization of human rights".[197]

72. As regards environmental considerations in human rights instruments, it is after the 1972 United Nations Conference on the Human Environment that human rights treaties have included the specific right to the environment. So far, there are two instruments that expressly provide such a right: the African Charter on Human and Peoples' Rights of 1981, which provides in its article 24 that "[a]ll peoples shall have the right to a general satisfactory environment favourable to their development" and the Additional Protocol to the American Convention on Human Rights in the area of economic, social and cultural rights, which stipulates in its article 11, paragraph 1, that "[e]veryone shall have the right to live in a healthy environment". In contrast, treaties and other instruments concluded before the Stockholm Conference in 1972 did not explicitly refer to any specific right to the environment, among these the Universal Declaration of Human Rights, the Convention for the Protection of Human Rights and Fundamental Freedoms (hereinafter, "European Convention on Human Rights"), the International Covenants on Civil and Political Rights and on Economic, Social and Cultural Rights and the American Convention on Human Rights. However, human rights courts and bodies established under those conventions have subsequently incorporated environmental considerations into the existing provisions on certain general rights through an evolutionary interpretation of respective treaties in order to afford human protection from environmental pollution or degradation.[198] Thus, the European Court of Human Rights, for instance, stated that: "There is no explicit right in the Convention to a clean and quiet environment, but where an individual is directly and seriously affected by noise or other pollution, an issue may arise under Article 8."[199] The Inter-American Commission on Human Rights also expressly recognized the link between the protection of the environment and the enjoyment of human rights guaranteed under the American Convention on Human Rights, stating that:

> although neither the American Declaration of the Rights and Duties of Man nor the American Convention on Human Rights includes any express reference to the protection of the environment, it is clear that several fundamental rights enshrined therein require, as a precondition for their proper exercise, a minimal environmental quality, and suffer a profound detrimental impact from the degradation of the natural resource base. The IACHR [Inter-American Commission on Human Rights] has emphasized in this regard that there is a direct relationship between the physical environment in which persons live and the rights of life, security, and physical integrity. These rights are directly

[196] Human Rights Council resolution 19/10 of 19 April 2012 on human rights and the environment (A/HRC/RES/19/10).

[197] "Analytical study on the relationship between human rights and the environment: report of the United Nations High Commissioner for Human Rights" (A/HRC/19/34), paras. 15-16 (this report was undertaken by an independent expert, John Knox, for the Office of the High Commissioner for Human Rights).

[198] R. Desgagné, "Integrating environmental values into the European Convention on Human Rights", *American Journal of International Law*, vol. 89 (1995), pp. 263-294. See draft conclusion 8 adopted by the Commission on first reading on the topic "Subsequent agreements and subsequent practice in relation to the interpretation of treaties" (*Official Records of the General Assembly, Seventy-first Session, Supplement No. 10* (A/71/10), pp. 180-188).

[199] *Hatton and Others v. the United Kingdom* [GC], no. 36022/97, ECHR, 2003-VIII, para. 96.

affected when there are episodes or situations of deforestation, contamination of the water, pollution, or other types of environmental harm.[200]

B. Jurisprudence of international courts and treaty bodies

73. There may be a difficulty, however, in analysing the protection of the atmosphere through application of human rights norms within the framework of general international law, because the specific circumstances and priorities in respective societies lead regional courts and human rights treaty bodies to interpret such norms differently.[201] Indeed, their focus and interpretation of the rights relating to environmental protection are slightly different. Generally speaking, the environmental jurisprudence of the European Court of Human Rights has been mainly concerned with individual rights relating to human health and private and family life, while it appears that the Inter-American Court of Human Rights and the African Commission on Human and Peoples' Rights have focused more on the collective rights of indigenous or tribal peoples,[202] though admittedly, based on the commonality of environmental jurisprudence, the relevant treaty provisions may in the long run come to be interpreted and applied in a harmonious manner.[203]

Human Rights Committee

74. At the global level, it was after 1990 that certain complaints relevant to environmental concerns were communicated to the Human Rights Committee, though such complaints had limited success on the merits.[204] In the context of the protection of the atmosphere, the *Bordes and Temeharo v. France*[205] case is of particular relevance, although the Committee found the case inadmissible. The case concerned underground nuclear tests in the South Pacific carried out by France in 1995 and 1996, which led New Zealand to bring the *Nuclear Tests II* case to the International Court of Justice.[206] In the *Bordes and Temeharo* case, French citizens residing in the islands of the South Pacific contended that the French tests violated their rights to life (article 6) and to privacy and family life (article 17) guaranteed under the International Covenant on Civil and Political Rights. According to them, the nuclear tests fractured the geological structure of the atolls, and radioactive particles that leaked from fissures contaminated the atmosphere and exposed the population surrounding the testing area to an increased risk of radiation. The Committee stated that "for a person to claim to be a victim of a violation of a right protected by the Covenant, he or she must show either that an act or omission of a

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[200] *Kuna Indigenous People of Madungandí and Emberá Indigenous People of Bayano and Their Members v. Panama*, merits of 13 November 2012, Report No. 125/12, Case 12.354, para. 233.

[201] R. Higgins, "Human rights: some questions of integrity", *Modern Law Review*, vol. 52 (1989), pp. 1-21; and B. Simma, "International human rights and general international law: a comparative analysis", *Collected Courses of the Academy of European Law*, vol. IV-2 (The Hague, Martinus Nijhoff, 1995), pp. 153-236.

[202] Dupuy and Viñuales, *International Environmental Law* (see footnote 189 above), pp. 307-311.

[203] That does not mean the jurisprudence of the European Court of Human Rights on the matter has to be followed by other courts and bodies of human rights. See Higgins, "Human rights: some questions of integrity" (footnote 201 above), p. 7. Cf. L. Lixinski, "Treaty interpretation by the Inter-American Court of Human Rights: expansionism at the service of the unity of international law", *European Journal of International Law*, vol. 21, No. 3 (2010), pp. 585-604, at pp. 594-596.

[204] Dupuy and Viñuales, *International Environmental Law* (see footnote 189 above), p. 306.

[205] *Bordes and Temeharo v. France*, Communication No. 645/1995, Decision adopted on 22 July 1996, *Official Records of the General Assembly, Fifty-first Session, Supplement No. 40* (A/51/40), vol. II, annex IX, sect. G.

[206] *Request for an Examination of the Situation in Accordance with Paragraph 63 of the Court's Judgment of 20 December 1974 in the* Nuclear Tests (New Zealand v. France) *Case, I.C.J. Reports 1995*, p. 288.

State party has already adversely affected his or her enjoyment of such right, or that there is a real threat of such result",[207] finding that the applicants did not qualify as "victims" of violation due to the remoteness of the harm, and that the case was inadmissible. It should be noted, however, that the Committee did not deny the possibility that atmospheric pollution by a State infringes the right to life and the right to family life guaranteed under the Covenant, if the direct link between such pollution and the impairment of their rights is established.

European Court of Human Rights

75. It was in the 1994 *López Ostra v. Spain* case that the European Court of Human Rights for the first time clearly recognized environmental issues within the European Convention on Human Rights, even in the absence of an explicit environmental right.[208] In this case, the applicant, a Spanish national and resident of the city of Lorca, in Spain, claimed that fumes from a waste treatment plant, which was built by a private company in the vicinity of the applicant's residence, polluted the atmosphere in that city and caused health problems and nuisance to the applicant and her family, which resulted in a violation of article 8 ("Right to private and family life") of the Convention. The Court endorsed the preceding Commission's findings that "there could be a causal link between ... emissions and the applicant's daughter's ailments".[209] The Court went on to say that "[a]dmittedly, the Spanish authorities, and in particular the Lorca municipality, were theoretically not directly responsible for the emissions in question",[210] because the plant concerned was owned, controlled and operated by a private company. According to the Court, however, the Spanish authorities incurred "a positive duty ... to take reasonable and appropriate measures to secure the applicant's rights" guaranteed under the Convention,[211] because the town allowed the plant to be built on its land and subsidized the plant's construction.[212] The Court finally concluded that Spain was responsible for violating article 8 due to its failure to take steps to that end.

76. The subject matter of the 1995 case *Noel Narvii Tauira and 18 others v. France*[213] before the then European Commission on Human Rights was the same as that of the *Bordes and Temeharo v. France* case before the Human Rights Committee above (see paragraph 74 above). In that case, the applicants claimed that the decision of France to resume nuclear tests in the South Pacific would result in a violation of, among other rights, articles 2 ("Right to life") and 8 ("Right to respect for private and family life") of the European Convention on Human Rights and article 1 ("Protection of property") of its Protocol No. 1. As the Committee concluded, the Commission stated that: "[i]n order for an applicant to claim to be a victim of a violation of the Convention, there must be a sufficiently direct link between the applicant and the loss which he considers he has suffered as a result of the alleged violation",[214] and that "[m]erely invoking risks inherent in the use of nuclear power ... is insufficient to enable the applicants to claim to be victims of a violation of the Convention, as many human activities generate risks".[215] Eventually, the Commission reached the same conclusion as the Committee, namely that the

[207] *Bordes and Temeharo v. France*, Communication No. 645/1995, para. 5.4.
[208] M. Fitzmaurice, *Contemporary Issues in International Environmental Law* (Cheltenham, Edward Elgar, 2009), p. 186. *López Ostra v. Spain*, 9 December 1994, Series A no. 303-C.
[209] Ibid., para. 49.
[210] Ibid., para. 52.
[211] Ibid., para. 51.
[212] Ibid., para. 52.
[213] *Noel Narvii Tauira and 18 others v. France*, no. 28204/95, Commission decision of 4 December 1995, Decisions and Reports No. 83-B, p. 112.
[214] Ibid., p. 130.
[215] Ibid., p. 131.

application was inadmissible due to the applicants' failure to substantiate their allegations. But, unlike the Committee, the Commission clearly recognized the admissibility of the application against the risk of a future violation, stating that "[i]t is only in highly exceptional circumstances that an applicant may nevertheless claim to be a victim of a violation of the Convention owing to the risk of a future violation", since the applicants alleged the potential risk to their lives, health and family lives of a leakage of radioactivity from ruptured atolls.[216] The Commission went on to say that: "In order for an applicant to claim to be a victim in such a situation, he must ... produce reasonable and *convincing evidence* of the likelihood that a violation affecting him personally will occur; mere suspicion or conjecture is insufficient in this respect."[217]

77. The jurisprudence of the European Court of Human Rights relevant to the protection of atmosphere developed further in the case of *Fadeyeva v. Russia*[218] in 2005. This case concerned intra-boundary air pollution from the Severstal steel plant in the town of Cherepovets in the Russian Federation, privatized in 1993, which was argued by the applicants who lived in a flat near the plant to have infringed their right to health and well-being, as guaranteed under article 8 of the European Convention on Human Rights. The Court pointed out that, for the applicant to raise an issue under article 8 ("Right to respect for private and family life"), he or she has to establish (a) the causal link between environmental pollution or degradation and an impairment of a protected human right and (b) a certain minimum level of the adverse effect sufficient to bring it within the scope of article 8 of the Convention.[219] After the Court found that those two requirements were fulfilled, it noted that in the instant case the Severstal steel plant was not owned, controlled or operated by the Russian Federation at the material time.[220] The Court pointed out, however, that "the State's responsibility in environmental cases may arise from a failure to regulate private industry" and considered whether the State incurred a positive duty to take reasonable and appropriate measures to secure the applicant's right under article 8, paragraph 1, of the Convention.[221] The Court finally concluded that there exists "a sufficient nexus between the pollutant emissions and the State", because the authorities were in a position to evaluate the pollution hazards and to take adequate measures to prevent or reduce them,[222] thus affirming that there had been a violation of article 8 of the Convention by the Russian Federation.

African Commission on Human and Peoples' Rights

78. The 2001 *Ogoni* case[223] concerned environmental degradation and health problems among the Ogoni people in Nigeria resulting from the contamination of

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[216] Ibid., p. 130.

[217] Ibid., p. 131 (*emphasis added*).

[218] *Fadeyeva v. Russia*, no. 55723/00, ECHR 2005-IV.

[219] Ibid., paras. 68-69.

[220] Ibid., para. 89. Although the plant had released toxic substances into the air of the town before its privatization in 1993, the Court took into consideration only the period after 5 May 1998 when the European Convention on Human Rights came into force with respect to the Russian Federation.

[221] Ibid., para. 89.

[222] Ibid., para. 92.

[223] *Social and Economic Rights Action Center (SERAC) and Center for Economic and Social Rights (CESR) Nigeria*, decision of 27 October 2001, African Commission on Human and Peoples' Rights, Communication No. 155/96. The case was also concerned with the direct conduct of the Nigerian military and security forces against the Ogoni people, such as attacks, and burning and destruction of several Ogoni villages and homes. The present report, however, focuses only on environmental questions. See, F. Coomans, "The *Ogoni* case before the African Commission on Human and Peoples' Rights", *International and Comparative Law Quarterly*, vol. 52 (2003), pp. 749-760.

water, soil and air from resource exploitation by an oil consortium in which the Government of Nigeria was involved. The complainants invoked, among other rights, articles 4 ("Right to life"), 16 ("Right to health"), and 24 ("Right to a general satisfactory environment") of the African Charter on Human and Peoples' Rights as substantial rights infringed by the acts and omissions of Nigeria. In that case, the African Commission on Human and Peoples' Rights first of all mentioned the necessary condition for the complaint to be admissible, that is, the link between environmental pollution or degradation and the infringement of human rights, stating that: "These rights recognise the importance of a clean and safe environment ... in so far as the environment affects the quality of life and safety of the individual."[224] Then, the Commission suggested that violation of the human rights that the applicant had invoked entailed both negative and positive obligations.[225] In concluding its opinion, the Commission referred to certain precedents of the European Court of Human Rights and the Inter-American Court of Human Rights,[226] and emphasized that: "As a human rights instrument, the African Charter is not alien to these concepts".[227] According to the Commission, the right to health (article 16) imposes on States a negative obligation "to desist from directly threatening the health and environment of their citizens"[228] and the right to a general satisfactory environment (article 24) imposes on States a positive obligation "to take reasonable and other measures to prevent pollution and ecological degradation, to promote conservation, and to secure an ecologically sustainable development and use of natural resources",[229] including environmental impact assessments, appropriate monitoring and provision of information. Finally, the African Commission, after examining the conduct of the Government of Nigeria, found a violation of articles 16 and 24 of the Charter. As for the right to life, the Commission found a violation of article 4, since "[t]he pollution and environmental degradation to a level humanly unacceptable has made living in the Ogoni land a nightmare".[230]

Inter-American Commission on Human Rights

79. The *Community of La Oroya v. Peru* petition concerned air, soil and water pollution from the metallurgical complex operated by the United States firm Doe Run in the community of La Oroya, Peru.[231] The petitioners alleged that Peru had been liable by act and omission, especially in its failure to control the complex, its lack of supervision, and its failure to adopt measures to mitigate ill effects. In its preliminary remarks, the Inter-American Commission found that: "the alleged deaths and/or health problems of alleged victims resulting from actions and omissions by the State in the face of environmental pollution generated by the metallurgical complex operating at La Oroya, if proven, could represent violations of the rights enshrined in Articles 4 ["Right to life"] and 5 ["Right to humane treatment"] of the American Convention [on Human Rights]".[232]

Since the environmental contamination was caused by a complex operated by a private enterprise, the Commission asserted the positive obligation of a State to take measures to avert risks to life and health by third parties.

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[224] African Commission on Human and Peoples' Rights, Communication No. 155/96, para. 51.
[225] Ibid., para. 44.
[226] Ibid., para. 57.
[227] Ibid., para. 44.
[228] Ibid., para. 52.
[229] Ibid.
[230] Ibid., para. 67.
[231] *Community of Law Oroya v. Peru*, decision on admissibility of 5 August 2009, Report No. 76/09, Petition 1473-06. The complex was nationalized in 1974 and then purchased by the United States firm in 1997.
[232] Ibid., para. 74.

80. Climate change has specific identifiable effects on polar regions and populations living in the area. Two indigenous groups independently presented petitions to the Inter-American Commission on issues related to such climate change.[233] In 2005, a Chair of the Inuit Circumpolar Conference, on behalf of the Inuit of the Arctic regions of the United States and Canada, filed a petition against the United States with the Commission, alleging that the impact of climate change in the Arctic, caused by the greenhouse gas emissions of the United States, violated the Inuit's fundamental human rights protected by the American Declaration of the Rights and Duties of Man and other international instruments.[234] These included their rights to the benefits of culture, to property, to the preservation of health, life, physical integrity, security, and a means of subsistence, and to residence, movement, and inviolability of the home. In 2006, the Commission, however, dismissed the petition, concluding that the petitioners failed to establish "whether the alleged facts would tend to characterize a violation of rights protected by the American Declaration".[235] In 2013, the Arctic Athabaskan Council, on behalf of all the Athabaskan Peoples of the Arctic regions of Canada and the United States, in turn, filed a petition against Canada with the Commission, claiming that Arctic warming, caused by Canada's inaction and a lack of effective regulations for black carbon emissions, violated the human rights of Arctic Athabaskan peoples, including the right to the benefits of their culture, the right to property and the right to health enshrined in the American Declaration of the Rights and Duties of Man.[236] A review of the admissibility of the Athabaskan petition is still pending.

C. Substantive rights

81. A comparative analysis of environmental jurisprudence and the decisions of human rights courts and bodies suggests that the most commonly used "general" substantive rights in environmental claims are "the right to life" (article 6 of the International Covenant on Civil and Political Rights; article 6 of the Convention on the Rights of the Child; article 10 of the Convention on the Rights of Persons with Disabilities; article 2 of the European Convention on Human Rights; article 4 of the American Convention on Human Rights; and article 4 of the African Charter on Human and Peoples' Rights), "the right to private and family life" (article 17 of the Covenant; article 8 of the European Convention on Human Rights; and article 11, paragraph 2, of the American Convention on Human Rights), and "the right to property" (article 1 of Protocol No. 1 to the European Convention on Human Rights; article 21 of the American Convention on Human Rights; and article 14 of the African Charter on Human and Peoples' Rights).[237] Where a "specific" right to

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[233] V. de la Rosa Jaimes, "Climate change and human rights litigation in Europe and the Americas", *Seattle Journal of Environmental Law*, vol. 5, No. 1 (2015), pp. 165-196, at pp. 191-195.

[234] Inuit Circumpolar Conference, *Petition to the Inter-American Commission on Human Rights Seeking Relief from Violations resulting from Global Warming caused by Acts and Omissions of the United States*, 7 December 2005, available from www.inuitcircumpolar.com/uploads/3/0/5/4/30542564/finalpetitionicc.pdf (accessed 20 February 2017).

[235] See letter from Ariel E. Dulitzky, Assistance Executive Secretary, Organization of American States, to Paul Crowley, ref. Sheila Watt-Cloutier, et al., Petition No. P-1413-05, United States, 16 November 2006, available from http://graphics8.nytimes.com/packages/pdf/science/16commissionletter.pdf (accessed 20 February 2017).

[236] Arctic Athabaskan Council, *Petition to the Inter-American Commission on Human Rights Seeking Relief from Violations of the Rights of Arctic Athabaskan Peoples resulting from Rapid Arctic Warming and Melting Caused by Emissions of Black Carbon by Canada*, 23 April 2013, available from http://earthjustice.org/sites/default/files/AAC_PETITION_13-04-23a.pdf (accessed 20 February 2017).

[237] D. Shelton, "Human rights and the environment: substantive rights", in *Research Handbook on International Environmental Law*, M. Fitzmaurice, D.M. Ong and P. Merkouris, eds. (Cheltenham, Edward Elgar, 2010), pp. 267-283, at pp. 267 and 269-278.

environment is not explicitly provided for under human rights instruments, human rights courts and treaty bodies interpret those general rights to cover the content of the right to environment and the right to health.[238] In addition, even where there exist specific rights to environment in human rights conventions such as the African Charter on Human and Peoples' Rights, relevant courts and treaty bodies apply general rights, such as the right to life, as well as the specific right to environment and the right to health, as indicated in the *Ogoni* and the *Inuit* cases above. Those general rights are common to all human rights instruments, whether global or regional, and thus may be universally applicable, if jurisprudence continues in such a direction in this field.

82. In order for international human rights law to contribute to the protection of the atmosphere, however, certain core requirements must be fulfilled.[239] First, international human rights law remains "a personal-injury-based legal system"[240] and, as a result, the direct link between atmospheric pollution or degradation and an impairment of a protected right must be established. Second, the adverse effects of atmospheric pollution or degradation must attain a certain minimum level if they are to fall within the scope of international human rights law. The assessment of that minimum standard is relative and depends on the content of the right to be invoked and all the relevant circumstances of the case, such as the intensity and duration of the nuisance, and its physical or mental effects. Third, and most importantly, it is necessary to establish a causal link between the action or omission of a State, on the one hand, and atmospheric pollution or degradation, on the other hand.

83. The obligations of States engendered from relevant rights are of two dimensions. In principle, States incur the negative obligation — or obligation to respect — to refrain from any interference directly or indirectly with the enjoyment of fundamental rights. However, as the above jurisprudence and decisions of human rights courts and bodies have suggested, this duty of abstention is accompanied by the positive obligation — or obligation to protect — to take all appropriate measures to protect human rights.[241] It requires States to take positive measures to protect one's rights against any interference by third parties, such as individuals or private industries. The latter obligation includes, inter alia, adopting the necessary and effective legislative and other measures to prevent third parties from infringing upon guaranteed rights. As the Human Rights Committee rightly stated, the obligations under international human rights law "do not ... have direct horizontal effect as a matter of international law", but there may be circumstances in which State responsibility arises as a result of States' "permitting or failing to take appropriate measures or to exercise due diligence to prevent ... the harm caused by such acts by private persons or entities".[242]

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[238] R.R. Churchill, "Environmental rights in existing human rights treaties", in *Human Rights Approaches to Environmental Protection*, A.E. Boyle and M.R. Anderson, eds. (Oxford, Clarendon Press, 1996), pp. 89-108, at pp. 89-98.

[239] Dupuy and Viñuales, *International Environmental Law* (see footnote 189 above), pp. 320-329.

[240] Ibid., pp. 308-309.

[241] A.A. Cançado Trindade, "The contribution of international human rights law to environmental protection, with special reference to global environmental change", in *Environmental Change and International Law: New Challenges and Dimensions*, E. Brown Weiss, ed. (Tokyo, United Nations University Press, 1992), pp. 244-314, at pp. 272 and 280.

[242] Report of the Human Rights Committee, *Official Records of the General Assembly, Fifty-ninth Session, Supplement No. 40* (A/59/40), vol. I, annex III, general comment No. 31 (2004) on the nature of the general legal obligation imposed on States parties to the Covenant, para. 8.

D. Vulnerable people

84. Certain groups of people deserve special attention under international law because of their vulnerability to the impact of atmospheric pollution and degradation. These include indigenous people, those living in small island and low-lying developing countries, women, children and the elderly as well as persons with disabilities. According to the most recent data published by the World Health Organization (WHO) in September 2016, an estimated 6.5 million deaths annually (11.6 per cent of all global deaths) are attributable to air pollution, with the highest increases recorded in urban areas of low-income countries.[243] In response therefore, the Sustainable Development Goals adopted by the General Assembly in its 2030 Agenda for Sustainable Development address atmospheric pollution in Goals 3.9 and 11.6, calling, in particular, for a substantial reduction of the number of deaths and illnesses from air pollution, and for special attention to ambient air quality in cities.[244]

85. WHO has also noted that: "All populations will be affected by a changing climate, but the initial health risks vary greatly, depending on where and how people live. People living in small island developing states and other coastal regions, megacities, and mountainous and polar regions are all particularly vulnerable in different ways. Health effects are expected to be more severe for elderly people and people with infirmities or pre-existing medical conditions." Persons with disabilities should also be included here. WHO further noted that: "The groups who are likely to bear most of significant cost of the resulting disease burden are children and the poor, especially women.[245] The major diseases that are most sensitive to climate change — diarrhoea, vector-borne diseases like malaria, and infections associated with undernutrition — are most serious in children living in poverty."[246]

Thus, for instance, the World Bank Group has in recent years focused on policy development to support the people most vulnerable to climate change. According to its Climate Change Action Plan, extremely vulnerable groups include the very poor — those without access to basic infrastructure services and social protection — children, women and the elderly, persons with disabilities, indigenous populations, refugees and migrants, and people living in extremely vulnerable areas such as small islands and deltas.[247]

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[243] WHO, *Ambient Air Pollution: A Global Assessment of Exposure and Burden of Disease* (Geneva, 2016). See also WHO, "Burden of disease from the joint effects of household and ambient air pollution for 2012" (Geneva, 2014); United Nations Environment Assembly resolution 1/7 (2014) on strengthening the role of the United Nations Environment Programme in promoting air quality, UNEP/EA.1/10, annex I; World Health Assembly resolution WHA68.8 of 26 May 2015 on health and the environment: addressing the health impact of air pollution; and J. Lelieveld and others, "The contribution of outdoor air pollution sources to premature mortality on a global scale", *Nature*, vol. 525, No. 765 (2015), pp. 367-371.

[244] General Assembly resolution 70/1 of 25 September 2015; see B. Lode, P. Schönberger and P. Toussaint, "Clean air for all by 2030? Air quality in the 2030 Agenda and in international law", *Review of European, Community and International Environmental Law*, vol. 25, No. 1 (2016), pp. 27-38. See also the indicators for these targets specified in 2016 (3.9.1: mortality rate attributed to household and ambient air pollution; and 11.6.2: annual mean levels of fine particulate matter in cities).

[245] Footnote added. The Committee on the Elimination of Discrimination against Women has an agenda on "gender-related dimensions of disaster risk reduction and climate change"; see www.ohchr.org/EN/HRBodies/CEDAW/Pages/ClimateChange.aspx (accessed 20 February 2017).

[246] WHO, *Protecting Health from Climate Change: Connecting Science, Policy and People* (Geneva, 2009), p. 2.

[247] World Bank Group Climate Change Action Plan, 7 April 2016, para. 104, available from http://pubdocs.worldbank.org/en/677331460056382875/WBG-Climate-Change-Action-Plan-public-version.pdf (accessed 20 February 2017).

86. Apart from limited treaty practice and soft-law instruments, the legal status of indigenous people is not yet sufficiently settled in international law.[248] Nonetheless, as was declared in the Report of the Indigenous Peoples' Global Summit on Climate Change, "[i]ndigenous people are the most vulnerable to the impacts of climate change because they live in the areas most affected by climate change and are usually the most socio-economically disadvantaged",[249] and therefore they should certainly be included in those categories of people to be especially protected against the effects of atmospheric degradation.

E. Future generations

87. As previously emphasized in draft guideline 6 provisionally adopted in 2016, and in the Special Rapporteur's third report,[250] equitable and reasonable utilization of the atmosphere should also take into account the interests of future generations of humankind. It is considered necessary to emphasize the interests of future generations in the context of human rights protection. This intergenerational obligation was already expressed in principle 1 of the Stockholm Declaration ("solemn responsibility to protect and improve the environment for present and future generations"), and in the very concept of sustainable development as formulated in the 1987 Brundtland Report ("development that meets the needs of the present without compromising the ability of future generations")[251] as well as in the Preamble to the 2030 Agenda for Sustainable Development ("to support the needs of present and future generations"). It is also reflected in article 4 of the Convention for the protection of the world cultural and natural heritage (recognizing the "duty of ensuring the identification, protection, conservation, presentation and transmission to future generations" of cultural and natural heritage); in article 3, paragraph 1, of the United Nations Framework Convention on Climate Change ("Parties should protect the climate system for the benefit of present and future generations of humankind"), in the Preamble to the Convention on biological diversity, and in other subsequent treaties, such as article 4 (vi) of the Joint Convention on the Safety of Spent Fuel Management and on the Safety of Radioactive Waste Management (parties shall "strive to avoid actions that impose reasonably predictable impacts on future generations greater than those permitted for the current generation"). The International Court of Justice, in its 1996 advisory opinion on *Nuclear Weapons*, noted that "it is imperative ... to take account of the unique characteristics of nuclear weapons, and in particular their ... ability to cause

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[248] General Assembly resolution 61/295 of 13 September 2007 entitled "United Nations Declaration on the Rights of Indigenous Peoples" does not define "indigenous people", leaving the matter to future development. The group's self-identification is considered as an essential element in determining its status and scope. See R.L. Barsh, "Indigenous peoples", in *The Oxford Handbook of International Environmental Law*, D. Bodansky, J. Brunée and E. Hey, eds. (Oxford, Oxford University Press, 2007), pp. 829-852; B. Kingsbury, "Indigenous peoples", in *The Max Planck Encyclopedia of Public International Law*, R. Wolfrum, ed. (Oxford, Oxford University Press, 2012), vol. V, pp. 116-133; H.A. Strydom, "Environment and indigenous peoples", in *The Max Planck Encyclopedia of Public International Law*, R. Wolfrum, ed. (Oxford, Oxford University Press, 2012), vol. III, pp. 455-461.

[249] Report of the Indigenous Peoples' Global Summit on Climate Change, 20-24 April 2009, Anchorage, Alaska, p. 12, available from www.un.org/ga/president/63/letters/globalsummitoncc.pdf#search=%27 (accessed 20 February 2017).

[250] A/CN.4/692, paras. 69-78. See also the suggestion by Malaysia, during the debate on the topic in the Sixth Committee in October 2016, for further examination of factors to be assessed in balancing the interests of current and future generations (*Official Records of the General Assembly, Seventy-first Session, Sixth Committee*, 26th meeting (A/C.6/71/SR.26), para. 67).

[251] "Report of the World Commission on Environment and Development: note by the Secretary-General" (A/42/427), annex, chap. 2, para. 1.

damage to generations to come";[252] and Judge Weeramantry, in his dissenting opinion, considered that "the rights of future generations have passed the stage when they are merely an embryonic right struggling for recognition. They have woven themselves into international law".[253]

88. While there are no rights-holders present with legal standing to invoke the obligations so incurred, it has been suggested in the literature that the rights involved could be enforced by a "guardian" or representative of future generations.[254] Regarding protection of the atmosphere in particular, there have indeed been recent domestic court decisions in a number of countries upholding the human rights of minors, represented by guardians, to challenge governmental action (or inaction) in this field.[255] Standing to sue in some of those proceedings was granted on the basis of what is referred to as the "public trust doctrine",[256] holding Governments accountable as trustees for the management of common environmental resources.[257] Given, however, that there are as yet no decisions by international tribunals conferring customary intergenerational rights of this kind,[258] the Drafting Committee, at the sixty-eighth session of the Commission, opted for the term "interests" rather than "benefit" in draft guideline 6.[259] Accordingly, paragraph 4 of the proposed new draft guideline 12 below uses similar language.

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[252] *Legality of the Threat or Use of Nuclear Weapons, Advisory Opinion, I.C.J. Reports 1996*, p. 226, at p. 244, para. 36.

[253] Ibid., at p. 455.

[254] E. Brown Weiss, *In Fairness to Future Generations: International Law, Common Patrimony, and Intergenerational Equity* (Tokyo, United Nations University Press, 1989), p. 96; M. Bruce, "Institutional aspects of a charter of the rights of future generations", in *Our Responsibilities Towards Future Generations*, S. Busuttil and others, eds. (Malta, UNESCO and Foundation for International Studies, University of Malta, 1990), pp. 127-131; T. Allen, "The Philippine children's case: recognizing legal standing for future generations", *Georgetown International Environmental Law Review*, vol. 6 (1994), pp. 713-741, referring to the judgment of the Philippine Supreme Court in *Minors Oposa et al. v. Factoran* (30 July 1993), *International Legal Materials*, vol. 33 (1994), pp. 173-206.

[255] On the "children's atmospheric trust" cases decided or currently pending in several United States state and federal courts, see M.C. Wood and C.W. Woodward, IV, "Atmospheric trust litigation and the constitutional right to a healthy climate system: judicial recognition at last", *Washington Journal of Environmental Law and Policy*, vol. 6 (2016), pp. 634-684. For a similar case now pending in the Pakistan Supreme Court, see *Rabab Ali v. Federation of Pakistan*, summary available from http://www.ourchildrenstrust.org/pakistan (accessed 20 February 2017).

[256] See C. Redgwell, *Intergenerational Trusts and Environmental Protection* (Manchester, Manchester University Press, 1999); K. Coghill, C. Sampford and T. Smith, eds., *Fiduciary Duty and the Atmospheric Trust* (London, Routledge, 2012); M.C. Blumm and M.C. Wood, *The Public Trust Doctrine in Environmental and Natural Resources Law*, 2nd ed. (Durham, North Carolina, Carolina Academic Press, 2015); K. Bosselmann, *Earth Governance: Trusteeship of the Global Commons* (Cheltenham, Edward Elgar Publishing, 2015).

[257] In a landmark judgment on 13 December 1996, the Indian Supreme Court declared the public trust doctrine "the law of the land"; *M.C. Mehta v. Kamal Nath and others*, (1997) 1 Supreme Court Cases 388, reprinted in C.O. Okidi, ed., *Compendium of Judicial Decisions in Matters Related to Environment: National Decisions*, vol. I (Nairobi, United Nations Environment Programme/United Nations Development Programme, 1998), p. 259. See J. Razzaque, "Application of public trust doctrine in Indian environmental cases", *Journal of Environmental Law*, vol. 13, No. 2 (2001), pp. 221-234.

[258] C. Redgwell, "Intra- and inter-generational equity", in *The Oxford Handbook of International Climate Change Law*, C.P. Carlarne, K.R. Gray and R.G. Tarasofsky, eds. (Oxford, Oxford University Press, 2016), pp. 185-201, at p. 198.

[259] *Official Records of the General Assembly, Seventy-first Session, Supplement No. 10* (A/71/10), p. 293, commentary on draft guideline 6, para. (3).

**** The term "extra-jurisdictional" application of a treaty is employed here in order to differentiate it from "extra-territorial" application of a domestic law.

F. Procedural problems: extra-jurisdictional application****

89. The most intriguing problem in the interrelationship between the law relating to the atmosphere and human rights law is the disconnect in their application. While the law on the atmosphere is to be applied not only to the States of victims but also to the States of origin of the harm, the scope of application of human rights treaties is limited to the persons subject to a State's jurisdiction (article 2 of the International Covenant on Civil and Political Rights; article 1 of the European Convention on Human Rights; and article 1 of the American Convention on Human Rights).[260] Since most jurisprudence and decisions examined above concerned intra-boundary air pollution cases in which applicants lodged their complaints against their own States, there was no problem of recognizing the States' positive obligations to deal with atmospheric pollution and atmospheric degradation in the context of the relevant human rights treaties. However, where an environmentally harmful activity in one State infringes a right of persons in another State, the case becomes a matter of extra-jurisdictional application, and thus a situation that human rights treaties cannot normally cope with. In other words, human rights treaties cannot be applied extra-jurisdictionally to the State of origin of the alleged environmental harm. This is the most fundamental difficulty in dealing with environmental problems via human rights treaties.

90. How would it be possible to overcome this difficulty? One way may be to resort to the object and purpose of human rights treaties. It should be noted that the International Court of Justice in its advisory opinion on the *Legal Consequences of the Construction of a Wall in the Occupied Palestinian Territory* pronounced: "while the jurisdiction of States is primarily territorial, it may sometimes be exercised outside the national territory. Considering the object and purpose of the International Covenant on Civil and Political Rights, it would seem natural that, even when such is the case, State parties to the Covenant should be bound to comply with its provisions".[261] If the fundamental object and purpose of human rights treaties is to protect human rights on the basis of the principle of non-discrimination, it is unreasonable to conclude that international human rights law has no application to transboundary atmospheric pollution or global degradation and that the law can extend protection only to the victims of intra-boundary pollution. The non-discrimination principle requires the responsible State to treat such pollution or degradation no differently from domestic pollution.[262] In the same vein, another possible way to address the challenge would be to resort to the test of "necessary and foreseeable consequence". The Human Rights Committee considered the jurisdictional scope of application of respective human rights instruments in cases concerning extradition by one State to another jurisdiction where a fugitive faced the death penalty (*Joseph Kindler v. Canada* case). The Human Rights Committee stated, however, that: "if a State party takes a decision relating to a person within its jurisdiction, and the necessary and foreseeable consequence is that that person's rights under the Covenant will be violated in another jurisdiction, the State party itself may be in violation of the Covenant".[263]

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[260] A. Boyle, "Human rights and the environment: where next?", *European Journal of International Law*, vol. 23, No. 3 (2012), pp. 613-642, at pp. 633-641.

[261] *Legal Consequences of the Construction of a Wall in the Occupied Palestinian Territory, Advisory Opinion, I.C.J. Reports 2004*, p. 136, at p. 179, para. 109.

[262] Boyle, "Human rights and the environment ..." (see footnote 260 above), pp. 639-640.

[263] *Kindler v. Canada*, Communication No. 470/1991, Views adopted on 30 July 1993, *Official Records of the General Assembly, Forty-eighth Session, Supplement No. 40* (A/48/40), annex XII, sect. U, para. 6.2. The author was a fugitive who was convicted of murder and kidnapping and sentenced to the death penalty in the United States in 1983. He escaped to Canada in 1984. Canada arrested and detained him in 1985 and extradited him to the United States, by which he

This could be conceived of as a form of non-discrimination in human rights law. The same principle has been confirmed by the European Court of Human Rights in an effort to overcome the difficulty of the extra-jurisdictional application of human rights treaties.[264]

91. Another avenue to overcome the jurisdictional difficulty of human rights treaties may be to recognize that those substantive human rights norms relevant to the protection of the atmosphere, such as the rights to life and to property, are now crystallized as customary international law. Since customary international law can be applied without jurisdictional limitation, the relevant human rights norms can be equally applied to any State, including the author and victim States. Indeed, many human rights norms are today recognized as established or emergent rules of customary international law.[265] If the relevant human rights norms are recognized as such, they will be considered as overlapping with environmental norms, such as due diligence (draft guideline 3), environmental impact assessment (draft guideline 4), sustainable utilization (draft guideline 5) and equitable and reasonable utilization (draft guideline 6), among others, which would enable interpretation and application of both norms in a harmonious manner.

92. Based on the foregoing considerations, draft guideline 12 is proposed as follows:

Draft guideline 12: Interrelationship of law on the protection of the atmosphere with human rights law

1. States should make best efforts to develop, interpret and apply international human rights norms in a mutually supportive manner with rules of international law relating to the protection of the atmosphere, with a view to effectively protecting the atmosphere from atmospheric pollution and atmospheric degradation.

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alleged a violation by Canada of certain rights guaranteed under the Covenant. Canada contented that the author could not be considered a victim within the jurisdiction of Canada, since he had already been extradited to the United States, falling therefore outside the former's jurisdiction. The tests of "necessary and foreseeable" or "real risk" or "reasonably anticipate" have been employed in turns by the Human Rights Committee when extra-jurisdictionally applying the Covenant facing extradition: *Kindler v. Canada*, ibid., paras. 6.2 and 13.2; *Chitat Ng v. Canada*, Communication No. 469/1991, Views adopted on 5 November 1993, ibid., *Forty-ninth Session* (A/49/40), annex IX, sect. CC, para. 7; *Cox v. Canada*, Communication No. 539/1993, Views adopted on 31 October 1994, ibid., *Fiftieth Session*, annex X, sect. M, para. 16.1; *A.R.J. v. Australia*, Communication No. 692/1996, Views adopted on 28 July 1997, ibid., *Fifty-second Session* (A/52/40), annex VI, sect. T, para. 4.1; *Judge v. Canada*, Communication No. 829/1998, Views adopted on 5 August 2003, ibid., *Fifty-eighth Session* (A/58/40), annex V, sect. G, para. 10.4; *Esposito v. Spain*, Communication No. 1359/2005, Decision adopted on 20 March 2007, ibid., *Sixty-second Session* (A/62/40), annex VIII, sect. P, para. 7.5; *Munaf v. Romania*, Communication No. 1539/2006, Views adopted on 30 July 2009, ibid., *Sixty-fourth Session* (A/64/40), annex VII, sect. LL, para. 4.14.

[264] The test of "real risk" is used by the European Court of Human Rights in its extra-jurisdictional application of the Convention facing extradition. See *Soering v. the United Kingdom*, 7 July 1989, Series A no. 161, para. 4; *Chahal v. the United Kingdom*, 15 November 1996, *Reports of Judgments and Decisions* 1996-V, para. 68; *Saadi v. Italy* [GC], no. 37201/06, ECHR 2008.

[265] B. Simma and P. Alston, "Sources of human rights law: custom, jus cogens and general principles", *Australian Year Book of International Law*, vol. 12 (1988), pp. 82-108; V. Dimitrijevic, "Customary law as an instrument for the protection of human rights", Working Paper, No. 7 (Milan, Istituto per gli Studi di Politica Internazionale (ISPI), 2006); B. Simma, "Human rights in the International Court of Justice: Are we witnessing a sea change?", in *Unity and Diversity of International Law: Essays in Honour of Professor Pierre-Marie Dupuy*, D. Alland and others, eds. (Leiden, Martinus Nijhoff, 2014), pp. 711-737; H. Thirlway, "International law and practice. Human rights in customary law: an attempt to define some of the issues", *Leiden Journal of International Law*, vol. 28 (2015), pp. 495-506.

2. States should make best efforts to comply with international human rights norms in developing, interpreting and applying the rules and recommendations relevant to the protection of the atmosphere from atmospheric pollution and atmospheric degradation, particularly with regard to the human rights of vulnerable groups of people, including indigenous people, people of the least developed developing countries, and women, children and the elderly as well as persons with disabilities.

3. States should consider, in developing and interpreting and applying the relevant rules of international law, the impact of sea-level rise on small island and low-lying States, particularly in matters relating to human rights and migration.

4. States should also take into account the interests of future generations of humankind in the long-term conservation of the quality of the atmosphere.

V. Conclusion

93. The present report has attempted to demonstrate that the law relating to the protection of the atmosphere exists and functions in the interrelationship with other relevant fields of international law, most notably, international trade and investment law, the law of the sea and human rights law. These are the fields that have intrinsic links with the law on the atmosphere and, as such, it is clear that they need to be treated in an integrated manner within the scope of the present topic.

94. The next report, in 2018, will deal with: (a) implementation (on the level of domestic law); (b) compliance (on the level of international law); and (c) specific features of dispute settlement relating to the law on the protection of the atmosphere, which will hopefully conclude the first reading of the topic.